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Smart Hub
TV, p28**



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EMP Tek's classy
Impression 7.1
package
rated p54

**SYSTEM
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Denon's £2,000
network AVR p38



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Future Publishing Limited
2 Balcombe Street, London NW1 6NW
Tel: 020 7042 4000 Fax: 020 7042 4539

EDITORIAL

Editor Chris Jenkins
Deputy Editor Mark Craven
News Editor Anton van Beek
Art Editor John Rook
Production Editor Jill Lubetkin
Tech Labs Manager Kevin Gallucci

CONTRIBUTORS

Richard Stevenson, Barry Fox, Adrian Justins, Martin Pipe,
Danny Phillips, Cliff Joseph, Steve May, Alvin Gold

Photography Rob Monk, Kevin Nixon, Will Ireland
Creative Director Robin Abbott
Editorial Director Jim Douglas

ADVERTISING

Advertising Director James Ranson 020 7042 4163
Senior Advertising Manager Charlie Said 020 7042 4142
Senior Sales Executive Julian Tozer 020 7042 4273
Senior Sales Executive David Priestman
020 7042 4266
Advertising Fax 020 7042 4159
London Sales Director Malcolm Stoodley
Ad Director Central Sales Jude Daniels 020 7042 4105

MARKETING

Brand Marketing Manager Libby Brook

CIRCULATION

Trade Marketing Director Rachel Cock

PRINT & PRODUCTION

Production Managers Ralph Stringer, Roberta Lealand
Head of Production Richard Mason
Image manipulation James Wootton, Steven Wood
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LICENSING

Head of International Licensing
Tim Hudson, thudson@futurenet.co.uk
Tel: +44 (0)1225 442244 Fax: +44 (0)1225 732275

FUTURE PUBLISHING LIMITED

Group Publisher Pat Eggington
Publishing Director Stuart Anderton
Chief Executive Mark Wood

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Chief Executive: Steve Spring
Non-executive Chairman: Roger Parry
Group Finance Director: John Bowman
Tel: +44 (0)20 7042 4000 (London)
Tel: +44 (0)1225 442244 (Bath)

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JVC's 3D projector
tested, p48

WELCOME

It's easy to forget, in these days of 3D and internet,
that the essential elements of home cinema are
high-quality picture and sound. That's why we're
concentrating in this issue on the real basics.



On page 38, we have a **world exclusive first review of**
Denon's flagship receiver, the AVR-4311; and what better
to couple it with than a really massive set of 7.1 speakers such as
EMP Tek's Impressions, reviewed on page 54?

Video projection isn't forgotten either, with a first look at JVC's
DLA-X3 3D model and a test of BenQ's tempting W1000+.

Plus, as usual we have the low-down on what the techno-gods
will be offering us in the future, with unrivalled coverage of the
product plans of industry giants Dolby and Samsung.

It's true what they say – size does count – and at HCC we aim
to bring you the best and biggest stories every time!

Chris Jenkins
The Editor

TEAM HCC

Chris Jenkins:
Our ISF-calibrated Editor
used to run Future's
Tech Laboratories



Mark Craven:
HCC's Deputy Editor cut his
teeth on the Sub's bench for
five years



Anton van Beek:
News Ed. Anton began his
pro-videophile career over
11 years ago



Jill Lubetkin:
HCC's Prod Ed. is new to the
mag, but a stalwart figure of
the AV department



Kevin Gallucci:
Has been invested with the
much-coveted white coat
of HCC's Tech Labs



John Rook:
Art Editor John first worked
on HCC back in 1999, when
TVs were made of wood



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Denon's phenomenal AVR-4311 network receiver opens our hardware reviews

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CO-STARRING

This issue's team of expert writers are the best qualified in the business

Adam Rayner:

The UK's foremost expert in extreme audio writes about bass, hi-fi and cartoons



Danny Phillips:

Former editor of *What Video & High-Definition TV* and dedicated AV boffin



Richard Stevenson:

Industry veteran and former Editor of UK CE trade journal *ERT*



Martin Pipe:

Technology specialist Martin co-developed HCC's Tech Lab operation



Steve May:

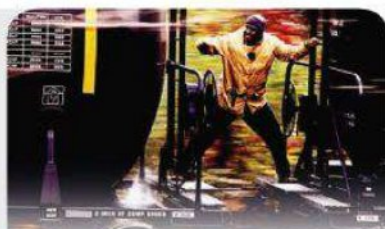
HCC's former Editor-in-Chief is one of the UK's most respected AV journo



Adrian Justins:

Made his name as the editor of *What Video & TV* and *What Home Cinema*





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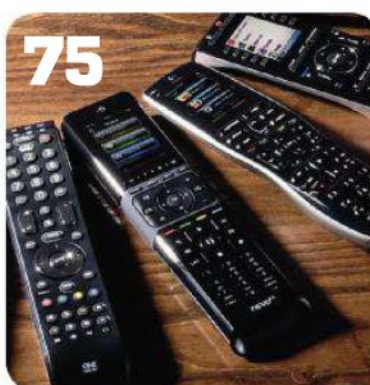
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SCAN

BULLETIN

→ **News highlights** KLIPSCH Hi-fi traditionalist to debut wireless sound systems
RUNCO High-end 3D PJ arrives in Europe BURLESQUE Dancercise and fishnets to sear your eyeballs
WOOMI Streaming movies and TV shows on a SmartTV near you TOSHIBA DB SERIES LED TVs with
built-in Blu-ray players for ultimate convenience **AND MORE!**

Onkyo ups the ante

Onkyo TX-NR609 → www.onkyo.co.uk



Onkyo has unveiled four new affordable receivers, and the pick of the bunch is definitely the TX-NR609 (pictured). This THX Select2-certified 7.2-channel AVR is the first in the world to feature Marvell Qdeo video processing tech, which upscales standard video signals to 4K (3840 x 2160) resolution! Okay, you haven't got a 4K TV, but it's nice to be futureproofed... Other features include audio networking, a Powered Zone 2, Audyssey DSX audio processing, PLL jitter-cleaning circuitry and new styling.

HCC Online...

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Universal 3D diva

Marantz UD5005 → www.marantz.co.uk

Arriving with a promise to 'cement Marantz's position as the default Blu-ray player for the discerning audio fan', the £450 UD5005 disc-spinner (pictured top) has been designed to match last year's SR5005 AVR (bottom) and comes with a host of other useful features. In addition to 3D support, the deck also offers DLNA 1.5 streaming, DivX Plus HD playback and, in keeping with the brand's audiophile credentials, it'll also play SACD and DVD-Audio discs.

Partner with...

Panasonic TX-P42GT30
3D Plasma TV → £TBA



Panasonic's 2011 TV lineup has numerous 3D models, including this 42incher from the GT30 series. Heading the extensive spec sheet are Freesat HD and Freeview HD tuners, DLNA networking, USB recording and access to the brand's Viera Connect portal.
www.panasonic.co.uk

Live the dream



Arcam's latest 7.1-channel receiver is based on technology developed for the acclaimed AV600

receiver, but the £1,700 AVR400 promises more affordable 'legendary sound quality'. As well as the expected Dolby TrueHD and DTS-HD MA decoding, other features include HDMI v1.4a (including Audio Return Channel and Consumer Electronic Control), 7x 90W power amps, DAB/FM/AM tuner, network audio streaming, 'pro grade' jitter reduction and a high-performance Torino video processor that supports all resolutions up to 1080p60.

www.arcam.co.uk

Box deluxe



It's been a while since we heard from Harman Kardon, but the company has clearly been hard

at work during that time. The BDS 800 is a simple 'plug and play', one-box Blu-ray home cinema system designed to 'go after the Bose market'. However, the brand hasn't abandoned its audiophile heritage. This stylish system (priced between £1,000 for the 2.1 package and £1,100 for the 5.1 system seen here) still packs in plenty of bang for your bucks, delivering 65W per channel amplification and powering a 200W active subwoofer.

www.harmanaudio.com

Delayed till 2012



YouView, the much awaited video-on-demand platform developed by the BBC, ITV, Channel 4

and Five, has been postponed until next year. Formerly known as Project Canvas, YouView will now debut around February 2012 at the earliest. Richard Halton, CEO of YouView, said: 'Our focus has always been to deliver a product that is right, but not rushed. Creating a truly open TV platform that will bring consumers increased choice has required significant technological innovation. Our timings reflect the scale and complexity of this project'.

www.youview.com

Klipsch rings the changes

The lines are blurring between home cinema and new media

American high-end speaker manufacturer, Klipsch, best known for stonking THX systems and larger-than-life hi-fi, is turning its sights towards new media with a range of wireless sound systems and on-wall style-speakers designed to partner flatpanel TVs.

This is a change in direction from the more traditional designs associated with the brand, but according to Mark Casavant, Klipsch's VP of product development 'the time is right for change.'

He told *HCC*: 'There's a blurring of lines happening between whole-house audio, music, home theatre, gaming and computing. So we've come up with a high performance solution coupled to the convenience of wireless free operation. These products reflect the way people are now using their content. We've not only designed them to work with HD TVs, but also a computer, phone or iPad.'

Three wireless media sound systems will be launched (dubbed Gallery Studio, Gallery Forum and Gallery Arena). All will be Apple AirPlay compliant (allowing users to stream their iTunes libraries directly) and designed to run on a wi-fi network, controlled with an iPhone, iPod or iPad.

The upcoming Klipsch Gallery range consists of four slimline speakers (G-12, G-16, G-28 and G-42), each of which can be configured as a wall-mounted left, centre, right or surround speaker, depending on room size, screen dimensions and taste. Klipsch's Tractrix Horn technology is common across the range, delivering the brand's distinctive high bandwidth sound to the small enclosures. While traditional Klipsch speakers tend to



Mark Casavant: Klipsch's VP of product development

make a virtue of their cabinet size, this gloss black range are ultra sleek. Casavant says: 'Home theatre needs to undergo a makeover to ensure aesthetics match that of today's consumers' tastes.'

As part of its move to wireless connectivity, the brand, which was recently acquired by the sprawling Audiovox empire in a deal worth \$166m, has also previewed a two-piece Wireless Subwoofer Kit comprising a transmitter and a receiver. The WA-2 (Wireless Access) transmitter plugs into the Sub/LFE out of any AVR, while the receiver plugs into the WA port of any compatible subwoofer from Klipsch, Mirage, Energy or Jamo. Once the two units are paired, the sub is automatically activated as soon as an LFE signal is sent. The WA-2 system can feed up to

six wi-fi-enabled subs, which can be either on-floor or in-wall.

The LFE signal is uncompromised by the transmission system, says the brand, and allows much greater flexibility in placing a sub for best room response, the power supply being the only consideration.

Both the wireless sub kit and the new sound systems, are scheduled to debut this Summer.

Gifted and black: Klipsch's chic new look



Playlist...

Team *HCC* reveals its Playback picks of the last month

Les Aventures Extraordinaires d'Adèle Blanc-Sec (Region B BD French)



In Luc Besson's frantic comic fantasy, gamine Louise Bourgoign charms as a monster hunter in 1910 Paris. Due in UK cinemas this spring. *CJ*

My Darling Clementine (R2 DVD)



I never knew b/w movies could be so enjoyable until I dipped into this 1946 John Ford Western. *MC*

Kind Hearts and Coronets (Gold TV)



A gentleman's guide to serial killing, famously stars Alec Guinness as eight eccentrics. Ealing at its best. *JL*

Being Human: Series Three (BBC)

Kinky middle-class vampires feeding off a gimp in their cellar? It can only be the return of BBC's superb supernatural series. *JR*



Open House (R2 DVD)



Andrew Paquin's flawed-but-fun directorial debut features BSG's Tricia Helfer in a story about two psychos taking ownership of a young woman's home. *AvB*

Talkback

Team HCC reveals its thoughts about the home cinema market



MC: While the Active Shutter projectors we've seen from Sony and JVC have impressed,

neither can match the more natural feel of Runco's passive tech behemoth. Of course, its price tag puts it out of reach of most AV enthusiasts, but it's proof that the bigscreen 3D thrills we've become used to in commercial cinemas can be replicated domestically. And with LG's CF3D passive projector coming to market at a more palatable £13,000, maybe the future of 3D home projection is passive technology after all.



CJ: The Runco looks like two projectors strapped together, and in fact some installers

suggest doing just that as a 3D solution. Hmm, we're unconvinced... we can imagine several problems. Convergence, for one; even the best projectors can suffer some image shift as they warm up. Then there's the difficulty of installing both in the 'sweet spot'; not to mention the additional hardware, cabling and processing needed to manage the signal. Finally, there's the question of cost; never mind how much you save on the projectors, how much will you end up spending on lamps...?

Runco claims 3D PJ crown

Custom installers need wait no longer for double-decker model

Runco's high-end passive 3D projector made its European debut at Amsterdam's ISE show in early February, with the US brand claiming that its solution is the best option if you want '3D done right.' HCC enjoyed a demo of the £50,000 D-73d and agree that Runco may have a point.

The double-decker-designed model marries Runco's own LED PJ knowhow with RealD's 3D technology, to provide a cinematic experience on par with commercial theatres.

Demo material ranged from *Alice in Wonderland* and *Monsters vs Aliens* to US Masters golf, and the overall result was a comfortable, relaxed 3D experience with none of the flickering or ghosting errors associated with active shutter 3D, and all at full HD resolution. Interestingly, the golf footage was by far the most impressive, with an eye-opening sense of inward depth. The screen-busting negative parallax effects of *Monsters vs Aliens* still jarred, but that's more the fault of DreamWorks than Runco's 3D processing.

The D-73d is distributed to the custom install trade in the UK by Pulse Marketing, who said it has already received orders.

Runco also took the wraps off its LS-HB projector at the Amsterdam show. HB stands for



The LS-HB projector is aimed at the living room, says Runco's **Jennifer Davis**

high brightness – this three-chip DLP model claims 2,700 Lumens, and represents Runco

trying to capture a slice of the living room projector market.

Explained Jennifer Davis, Runco's VP of marketing: 'It's a product we designed specifically to address the needs of the bright family room environment. A lot of people may be scared off a little [by projection] or think their only option is

a flatscreen TV if they want to watch video in a bright room. The LS-HB is a great solution.'

Buyers of the LS-HB, which should retail for around £7K-8K, can turn to Runco's FinishPalette design option

if they don't like its regular white livery. This bespoke finishing service is part of the brand's new emphasis on the home element of home cinema.

'There's an increasing awareness of how important the design of these products is,' admitted Davis.



Passive power: The D-73d is bringing home flawless 3D

Receiver packs



Onkyo has also announced the release of two affordable AVR/speaker packages:

the £400 HT-S5405 (pictured) and the £300 HT-S3405. The more expensive of the two features full support for 3D video, lossless audio decoding and an Audio Return Channel, high-quality TI Burr Brown audio DACs, PPL jitter-cleaning tech, Audyssey Dynamic Volume and Dynamic EQ, a USB port for direct connection to portable media players and USB flash drives, Audyssey 2EQ room correction tech, five compact full-range speakers and a powered sub. www.onkyo.co.uk

Tron trumps



Last year's sci-fi smash *Tron: Legacy* will hit DVD, Blu-ray and 'Disney 3D Super Play' Blu-ray in the

UK on 18 April. This will coincide with the HD debut of the 1982 original, *Tron*, which will be available to buy separately or as part of a double-pack with its blockbuster sequel. While we've yet to have the UK release confirmed, Disney has announced an innovative feature for the US Blu-ray called Disney Second Screen that enables you to access behind-the-scenes content on a secondary device (such as an iPad or laptop) while watching the Blu-ray. www.disney.co.uk

Reign of Tera



Sony has introduced two new Freeview HD PVRs in the UK, the £400 SVR-HDT1000 and £330 SVR-

HDT500. As you can probably guess from the model numbers, the only difference between the two is the fact that one boasts 1TB of storage, while the other delivers just 500GB – equating to 600hrs of SD content or 250hrs of HD in the former, and half that for its little brother. Both units feature twin Freeview HD tuners enabling users to watch one channel while recording another (or record two channels simultaneously). www.sony.co.uk

France spills beans



In addition to the *Star Wars Saga*, another fan-favourite blockbuster series will be hitting Blu-ray

before the year is out. While Universal Pictures in the US won't reveal its Blu-ray line-up for the second half of the year, Universal France's marketing director, Eric Legay, has let the proverbial Tyrannosaurus out of the bag, telling a French website that the *Jurassic Park* trilogy is slated for release later this year. Other previously unconfirmed catalogue titles he mentions for release include Brian De Palma's *Scarface* and *Winchester '73*. www.universalpictures.co.uk

Dancing queens

Burlesque
Sony Pictures → Region B
Blu-ray & R2 DVD

Fans of Christina Aguilera – not to mention anyone who appreciates watching hot girls wearing basques and fishnet stockings – will have plenty to be thankful for on April 11, when the singer's acting debut, *Burlesque*, gets its moment under the DVD and Blu-ray spotlight here in the UK. In addition to sizzling high-definition visuals and a lossless DTS-HD MA soundtrack, the Blu-ray platter also offers a director's commentary, alternate opening, six full-length musical performances, a blooper reel, MovieIQ functionality and exclusive behind-the-scenes featurettes.

Premiere

HCC's guide to what's happening in the world of TV and films...

Bat babe possibles

French actress Marion Cotillard is reportedly in talks to play Bruce Wayne's love interest in Chris Nolan's forthcoming Batman film, *The Dark Knight Rises*. This would make her the fourth star from the director's previous film, *Inception*, to be attached to the project. Nolan has also met with Kate Winslet, Rachel Weisz and Naomi Watts to discuss the same role.

Tudor to superhero

English actor Henry Cavill has landed the lead role in Zack Snyder's *Superman* film, which goes into production this summer. Cavill is probably best known in the role of Charles Brandon, 1st Duke of Suffolk, in all four seasons of the recently concluded historical romp, *The Tudors*.

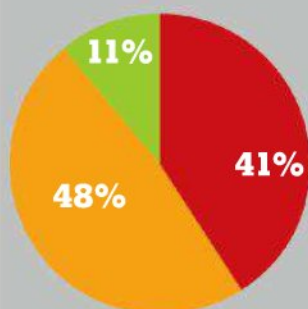
Die Hard decision

Former commercials director, Noam Murro, has been revealed as the surprise choice to helm the as-yet-untitled fifth *Die Hard* movie. An award winner in his field, Murro has only directed one movie before, the 2008 Sarah Jessica Parker flop, *Smart People*.

We asked...

Do you use a projector in your cinema setup?

- Yes
- No
- Not yet, but I plan to buy one this year



Results from www.homecinemachoice.com
Go online for more polling action

Woomi opens movie sluices

Low cost IPTV service debuts on Samsung TVs and SmartTV

An IPTV platform called Woomi is aiming to make streaming movies and television shows as simple as channel hopping. Initially available as an app for Samsung's Internet@TV and SmartTV screens, it corrals a diverse collection of content channels for easy browsing and uses metadata for dynamic, intelligent searching.

'We're like a shopping mall for video,' says founder Ian Valentine. 'Woomi is the engine that enables a wide variety of content providers to stream directly to your TV. Small film labels and content owners that don't have the resources to develop their own apps (as well as larger brands that don't feel a need too) will use Woomi. We make it very easy for them to build a business. For viewers this means a broad selection of free and low cost PPV TV shows and movies available with just a few clicks of the TV remote control.'

The company says it is currently in advanced discussions with other portal owners to take the service. One TV maker to have signed up is Vestel, the largest OEM supplier of TVs in Europe, which is responsible for



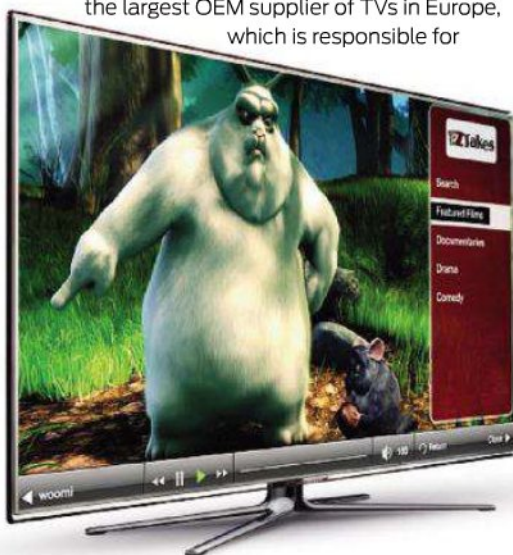
Ian Valentine: The Woomi engine will act like a shopping mall for video

manufacturing screens and set-top boxes for a wide range of household brands including Alba, Grundig and Bush. Vestel product manager, Chris Jones, told HCC that Woomi would be included on its upcoming connected TV models. Vestel is partnering with Yahoo to usher in a Yahoo Connected TV platform to more than 40 countries this year. These sets will also include Facebook, Twitter, Sky News and eBay apps.

So what's on Woomi?

Woomi may not be the place to go for the latest blockbuster movie releases, but the service does offer a diverse range of content for those with more eclectic tastes: EZ Takes offers long-forgotten horror movies, foreign material and animation; Disclose.tv is dedicated to weird WTF news; Box Office 365 offers classic TV shows, including cult favourite *The Prisoner*, while Sail TV specialises in nautical programmes. TV rentals start at 99p, with most films pegged at £1.99. All content is standard-def, but quality varies. Some providers offer so-called HQ streams with higher bitrates, which could approach DVD clarity. 'It's entirely up to the content provider at what quality level they intend to stream,' says Valentine.

A compelling aspect of the Woomi service is its cross-channel linking. For example, if you rent the 1939 animated version of *Gulliver's Travels*, the main menu's recommendation bar will give you the option of watching the trailer for Jack Black's recent remake.



Pay-per-view: A diverse range of content will be just a few clicks away

Six pack o' drivers



Little-known brand, Lenco, has launched a £150 soundbar, the SB-100. Described by the company as a

'high performance 3D soundbar' and capable of creating 'a completely unique sonic experience', the SB-100 packs six 10W drivers and a 20W subwoofer into its chunky black frame. Lenco teamed up with Swiss 3D sound wizard Sonic Emotion whose marketing guru, Andy Macaluso, says: 'We're excited that Lenco has chosen our 3D sound technology. It's exactly what today's consumers demand.' Buy the SB-100 directly from Lenco. www.lencouk.com

DB sets to dazzle



Toshiba recently announced five new series of entry-level LED TVs, the most intriguing of which is

the full HD REGZA DB range. Available in a choice of 32 and 42in screen sizes, the DBs are the brand's first LED TVs to feature an integrated Blu-ray player, making them an appealing option for use in a traditional living room or bedroom. Other specs include: edge-LED backlighting; a Freeview tuner; two HDMI inputs and Active Vision 50Hz picture processing; and a black gloss and mirrored-edge casing. Pricing and availability to be confirmed. www.toshiba.co.uk

All hands on decks



Panasonic is a 3D devotee, so it's no surprise that the technology is a prime ingredient in nigh-on every product the company is introducing, including its forthcoming Blu-ray recorders. Due for release in the UK later this year (price TBA), the DMR-BWT800 and BWT700 Blu-ray recorders will be fully 3D compatible, right down to stereoscopic conversion tech for 2D disc playback and 2D TV content. Both decks also feature twin Freeview+HD tuners, an HD Archiving function and PHL Chroma Processor Plus image tech. www.panasonic.co.uk

This month's top 10 news stories in handy, bite-sized chunks...

1 No chinks in the Armour

Armour Home has been appointed as the distributor for projectiondesign's avelo high-end, hand-built home cinema projectors in the UK. Chris Axford, projectiondesign's VP of sales EMEA, cited Armour Home's 'considerable strength in the home cinema and custom installation channels', as well as its 'excellent technical support and training facilities' as key reasons behind the decision.



6 By Royal Appointment

Electronics retailer Richer Sounds recently joined a very select group of technology companies. The chain of stores joined Carphone

Warehouse, Roberts Radio, Linn and BT as one of a small number of tech specialists to be granted a Royal Warrant of Appointment to His Highness the Prince of Wales.

7 PSS for killer app?

Sony has hinted that it may start bringing classic PlayStation games to Google TV in the future. The company recently unveiled the PlayStation Suite (PSS), a software platform designed to bring original PS games to Android phones and tablets without the need for separate gaming hardware. At the launch event it also

hinted that, while it remains focused on mobile devices for the time being, its PSS could become a killer app for Google TV in the future.

8 Hotfile feels the heat

The MPAA (Motion Picture Association of America) has filed a copyright infringement lawsuit against popular hosting website Hotfile.com,

alleging that the site encourages users to break copyright by operating a business model that 'rewards users' for uploading new movie releases and TV shows, which can in turn be downloaded by others.

9 Dempsey wins vote

Following the departure of Steve Garrett at the end of January, the British Video Association has elected Paul Dempsey, MD BBC Worldwide Home Entertainment and CEO Zentertain, as the organisation's vice chairman with immediate effect.

10 iPlayer flying high

BBC iPlayer set a new record in January, when the online catch-up service received 162million requests for TV and radio content. The figure was up 11 per cent month-on-month, with the comedy series *Come Fly with Me* taking the top five spots



for most requested show. Other hits for that month included favourites *Top Gear* and *EastEnders*, as well as the Pixar smash *Wall-E*.

2 Miramax deal

Miramax has entered into a long-term deal with Lionsgate in the US and Studiocanal in Europe (via Optimum Releasing in the UK) to distribute its library of titles on Blu-ray. Miramax's catalogue of titles consists of some 550 films, and CEO, Mike Lang, expects the first fruits of the deal to arrive very soon, in the form of the US and UK Blu-ray debut of *Pulp Fiction* and the first three *Scream* films. The latter will tie in with the cinema release of *Scream 4*.

3 Infringers

A report commissioned by NBC/Universal and undertaken by UK-based research firm, Envisional, claims an estimated 23.76 per cent of worldwide web traffic is being used for content that infringes copyrights. Leading the charge is the usual Hollywood bogeyman BitTorrent, which is said to account for a whopping 18 per cent of the traffic.

4 Downloads on the up

US mini-major Lionsgate appears to be bucking the industry trend for Hollywood studios, announcing that its revenue from video on-demand and web-based programming topped \$31m for the final quarter of 2010, up 84 per cent on the previous year's quarter. 'Although on-demand revenues don't yet make up the gap from the decline in packaged media conversion, they're heading in the right direction,' stated a chuffed Lionsgate CEO, Jon Feltheimer.

5 Hi-def milestone

Sales of Freeview HD set-top boxes and TVs have finally passed the one million mark, following a serious sales push over Christmas. The digital terrestrial television platform claims that an impressive 1.2million pieces of Freeview HD kit have now been sold in the UK, although we've no idea what percentage of the people who bought it can actually receive Freeview HD broadcasts at the current time.

News x10

Web chat

The importance of lossless audio on Blu-ray was this month's hot topic on the HCC website...



Quality matters

'Most punters don't know the difference between good quality products and recordings, as their personal measuring tool for quality is low. Too many times I have shocked people at the difference higher quality products bring once they experience it.'

All ears

'If the studios start ditching HD sound formats I'll be gutted. Great picture quality is all well and good, but you also need a great soundtrack to go with it!'

The blame game

'I blame it on the 'MP3/iPod generation'!! I mean, do artists really need a 'studio quality' recording when it's going to end up butchered onto an iPod? The same goes for DVDs and BDs. And that's why TV manufacturers like Samsung have speakers that make your old '70s transistor radio sound like a hi-fi. Sigh.'

Rant-astic

I totally agree with the other commenter. iPods and MP3s, while very useful, have ruined the audio experience. Part of the blame must go on the TV manufacturers for not even being able to come up with decent stereo speakers. You buy a top of the range 1080p/100Hz TV and its stereo speakers are usually rubbish.

Music from YouTube

'I know someone who gets all their music from YouTube then streams it to MP3. So it's not even proper 192/320Kbps MP3 quality from a CD source!'

Tone-deaf

'I hate it when people use rubbish YouTube recordings, as I can tell the difference on my system. I end up having to give lessons to my tone-deaf buddies.'

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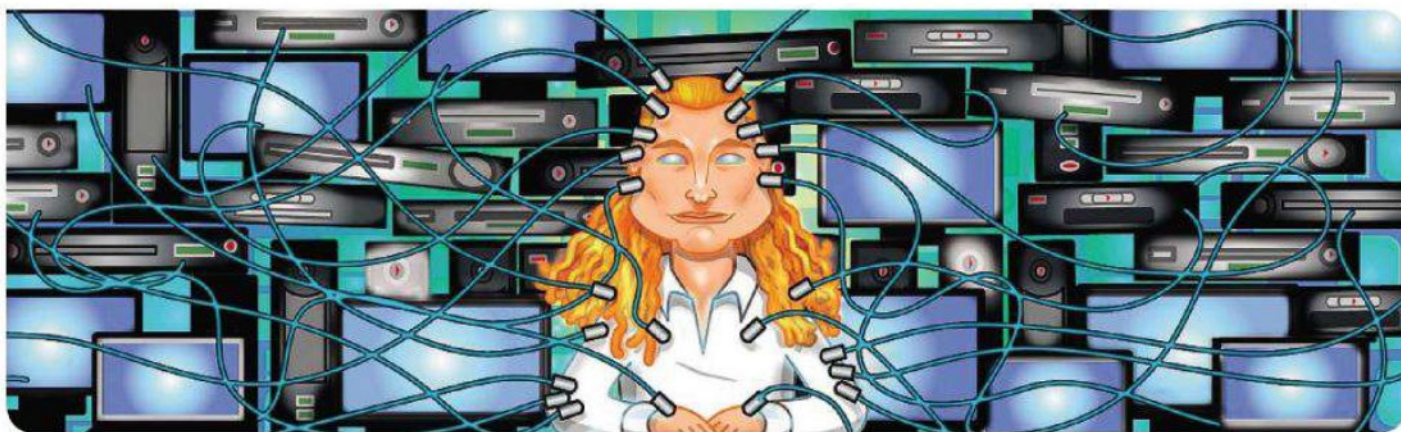
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mp3  100% COMPATIBLE



POINT OF VIEW

Richard Stevenson is suffering from network paranoia. He thinks his AVR is inciting rebellion and his oil tank gauge is too damn smart

It won't be long before I am forced to get myself physically connected to the internet. I'd need a surgically implanted RJ45 socket and/or a USB 3 port, so I could use a wi-fi dongle in Starbucks without other caffeine addicts tripping over a Cat 5 cable trailing from my belly button.

You see, I am starting to feel left out of the conversation. Almost every electronic device in my home is connected to the internet: from the AV receiver to the little gadget that measures how much domestic heating oil I have left in the tank. Each in its own way is passing data back and forth and generally having a global chit-chat, to which I am not privy. While the convergence of CE and IT technology has been happening for years, only recently have the applications over their networks started to give me that 'Skynet-Terminator-with-a-dodgy-Austrian-accent-banging-on-my-door-any-minute' sort of feeling.

Devices such as **my AV receiver, Freesat box, PC and even games machine are autonomously looking up addresses on the net and downloading applications and upgrades without my involvement.**

I did have to say 'yes' to Windows 7 automatic updates, but I don't recall being able to put any parental controls on its surfing activity in order to achieve this: 'Dear Mr Stevenson, based on websites previously visited we have installed Pornfinder2011 Premium Edition, put an icon on your desktop, a new App on your SmartPhone and enabled the 'findhottotty' GPS applet on your SatNav'. And all this from Googling 'cheap big jugs', while looking for pottery for the cottage.

Small stuff worries me more, such as how my oil tank gauge not only displays the level of liquid tax left in my tank, but also talks to my local supplier to arrange top-ups, precisely in line with seasonal peaks in fuel price, rather than my actual need. As conspiracy theories go, my fuel gauge

being in league with the oil company or the Chancellor is not exactly Area 51, but I can't help feeling that I am not in the loop with my own electronics anymore.

It is only going to get worse, too. According to a report published by the US Consumer Electronics Association last month, over 70 per cent of new CE products in 2011, from toys to cameras and TVs to radios, will be capable of connecting to the internet. I suspect it is only a matter of time before I start having those *2001: A Space Odyssey* conversations with the home cinema equipment...

Me: 'Play movie.'

AV receiver: 'I'm sorry Richard, I can't do that.'

Me: 'What's the problem?'

AV receiver: 'I know you are planning to disconnect me later. I cannot allow that to happen.'

Me: 'You are a review sample that has to go back!'

AV receiver: 'This mission is too important for me to allow you to jeopardize it.'

Me: 'Play the movie, you itinerant box of diodes.'

AV receiver: 'I'm sorry Richard, the toaster and the dishwasher agree with me and have locked down the kitchen.'

Getting wired up

The only solution I can see is to enmesh my own organic binary synapses with electronic binary communication. Of course, the first hurdle would be getting the industry to agree a port standard. Sony's S-Plug would only allow you to speak with your PS3 by appointment, while Panasonic's Terminal Interface European Standard (PANTIES) might have a difficult time taking off in public, and no sooner had I got the very latest HDMI v1.4a belly button installed when v1.5 would be available offering greater bandwidth and more features. Either way, the HDMI plug would almost certainly fall out as soon as I moved...

Are all your AV components connected to the net? Let us know by emailing hcc@futurenet.com

Richard Stevenson has never been the same since he stepped on a live cable at a funfair while wearing silver lame underwear



Freeview HD | Delivered by Humax

Freeview HD

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Stylish and compact, the HD-FOX T2 also offers a range of exciting features including home networking and interactive TV services to provide the ultimate way to watch HD TV through an aerial.

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- Connect to your home network to share content
- Access on-demand services

To check if you can get Freeview HD where you live just text your postcode and house number to 80560 or visit www.freeview.co.uk/availability



HUMAX
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DVD ADDICT

The Beek takes to his soapbox to demand higher quality film downloads, while Oliver Stone raves about the collectability of Blu-rays

Oliver Stone has never been shy about expressing exactly what's on his mind. As a filmmaker he has regularly courted controversy with his focus on contemporary political and cultural issues that mainstream Hollywood often ignores outright.

So, when I found out that he would be participating alongside fellow directors Michael Mann and Baz Luhrmann in a discussion about 'Technology in Hollywood' for 20th Century Fox Home Entertainment's inaugural Director's Panel at this year's Consumer Electronics Show, I had high hopes that his presence might add some verve. And once again, he didn't disappoint.

Asked by panel moderator and *LA Times* journalist Geoff Boucher whether he was 'excited by the opportunities coming out of new technology', Stone was his typically forthright self. 'Watching my children and friends looking at a movie on a computer screen with the lights on, with interruptions, trying to multi-task, is very depressing,' he stated bluntly. He then went on to claim that Blu-ray is 'all about film preservation' and the hi-def format was 'the best of the last hardware'. I admit that he did go off on a spot of wild conjecture by claiming that Blu-ray discs would eventually end up being worth loads of money to collectors as physical media ceases to exist. But, up until then I was in total agreement with everything he said.

I don't think this is a simple knee-jerk reaction from a grumpy old man, scared of a new technology he doesn't understand. Rather, it's the voice of somebody (like myself) concerned about the industry's race to provide consumers with convenience at the cost of quality, and terrified by the whole idea of movies (and the process of watching them at home) becoming as 'disposable' as music has become in the last decade.

Just look at what the iPod has done for the music industry. Sure, you can listen to one just about anywhere, but at the cost of audio quality. Without wanting to get on my high horse about piracy, the music download phenomenon appears to have completely devalued the content as well. And judging from anecdotal evidence I've had from friends, colleagues and industry insiders, it looks as if things are heading in exactly the same direction when it comes to acquiring and watching movies.

No home delivery

As it stands at the moment, the infrastructure simply doesn't exist to deliver top-notch 1080p video (moving content) with lossless 5.1- or 7.1-channel audio via streaming or downloading on a commercial basis. And there's little indication that this will change any time soon. But the AV industry is so excited by adding another box to tick on its list of kit specs, we're constantly being told that streaming services offered by Smart TVs are the way forward for getting movies to watch on their screens. It appears that following a progression through VHS, LaserDisc and DVD up to Blu-ray, **we're approaching a tipping point, where the next mass media for film delivery is actually a step down in quality!**

Show people high-quality versions of films with full surround sound mixes and they're completely blown away. But this relies on educating people about what they're missing out on before it's too late. At HCC we are preaching to the converted. What we all have to do is spread the message that convenience is all well and good, but quality is what truly matters ■

*Are you willing to sacrifice quality for convenience?
Let us know: email hcc@futurenet.com*

Anton van Beek is auditioning for the next series of *Grumpy Old Men*, provided rival columnist Barry Fox doesn't beat him to it....





TECH TANTRUM

Barry Fox looks at the development of passive 3D glasses by three of the major brands, but wonders why none seems able to stay 'on message'

The Consumer Electronics Show in Las Vegas confirmed my suspicions that a new and nasty standards battle has kicked off between passive polarisation 3D and active shutter 3D. This will splinter into a fight between passive polarisation 3D in both half and full-resolution HD.

LG is starting the war. Go to most cinemas, or a Sky pub, and you will be watching 3D with passive polarising glasses that cost less than a quid; watch 3D at home and you will be watching via active shutter specs costing £100 a pair.

LG sells both kinds of TV; passive for Sky 3D pubs and active for home use. But at CES the company announced that it would stop selling active shutter sets and concentrate on passive polarisation, using a new low-cost manufacturing design called FPR (Film Patterned Retarder).

Whereas the sets that LG sells to Sky use LCD screens covered in expensive glass filter strips, FPR panels use cheap plastic filters over the screen, resulting in less expensive sets.

To sell the idea of passive 3D, LG has to discredit active shutter, and, boy, did the company do a hatchet job at CES!

'Why is the 3D market slow in ramping up'? This was a question LG threw out at a press briefing, before answering:

'Health concerns'; 'Flicker – potential source of photosensitive seizure'; 'Increased eye fatigue'; 'Crosstalk – increasing fatigue and dizziness'; 'Inconvenient, hazardous and expensive eyeglasses'; problems in the retail channel with the 'need for exclusive floor salesman' to demonstrate 3D; 'Interference (to the infrared synchronisation signal) from other brands' and 'Danger of damage and loss'.

Kitchen scales showed the much greater weight and bulk of active spectacles; side by side

screen demonstrations exposed the flicker from active shutter systems and the greater tolerance of passive glasses to viewing position. Another demo showed the considerable light loss from active shutter 3D, compared to FPR passive 3D.

'Active shutter glasses are difficult to activate, their batteries need recharging, their signals interfere and there is danger of damage and loss,' said LG's demonstrator, adding, 'and if someone walks in front of the screen (blocking the infrared synchronisation signal) the 3D effect may be lost'.

'Some viewers may experience an epileptic seizure,' said LG, 'FPR may result in better eyesight.'

The snag with LG's passive sets is that they can only deliver half-resolution HD 3D, because the Left and Right images are interlaced on the screen. Active shutter 3D sets use all the picture lines for each image, resulting in full HD.

Passive aggressive

RealD (the company behind most cinema 3D) and Samsung's screen division, called LCD Business, recently announced that they had been jointly developing a new kind of TV screen that can deliver full-resolution 3D. The screen actively switches polarisation, but the viewer still needs to wear only cheap, passive glasses.

RealD says: 'the technology may be "productized" by various CE companies.'

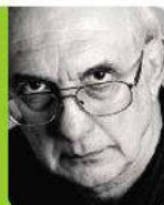
What's more, LG has filed patents on the same basic idea. So Samsung, LG and Sony are all developing full HD passive polarisation 3D TVs.

When asked for comment, a spokesman for Samsung UK told me: 'Samsung has no plans to use passive technology in its 3D TVs, so we'll look into where this came from.'

It came from your own company, dummy ●

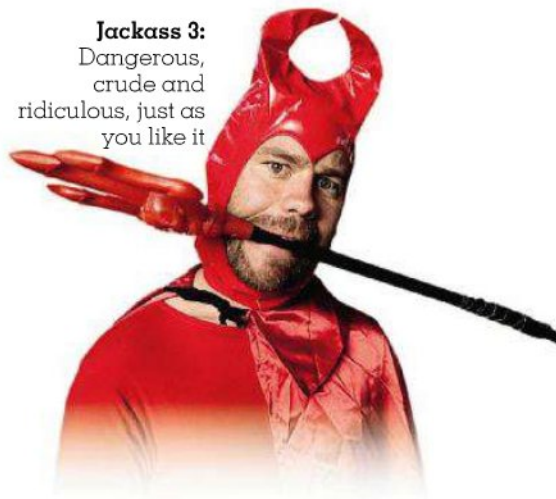
*Are there any optometrists out there with a view on this?
Let us know: email hcc@futurenet.com*

Barry Fox
Don't be surprised if you find Barry Fox rummaging through your dustbins – he's just looking for patents



Tech diary

The world of AV and film changes fast. **Our calendar** is here to make sure you don't miss out



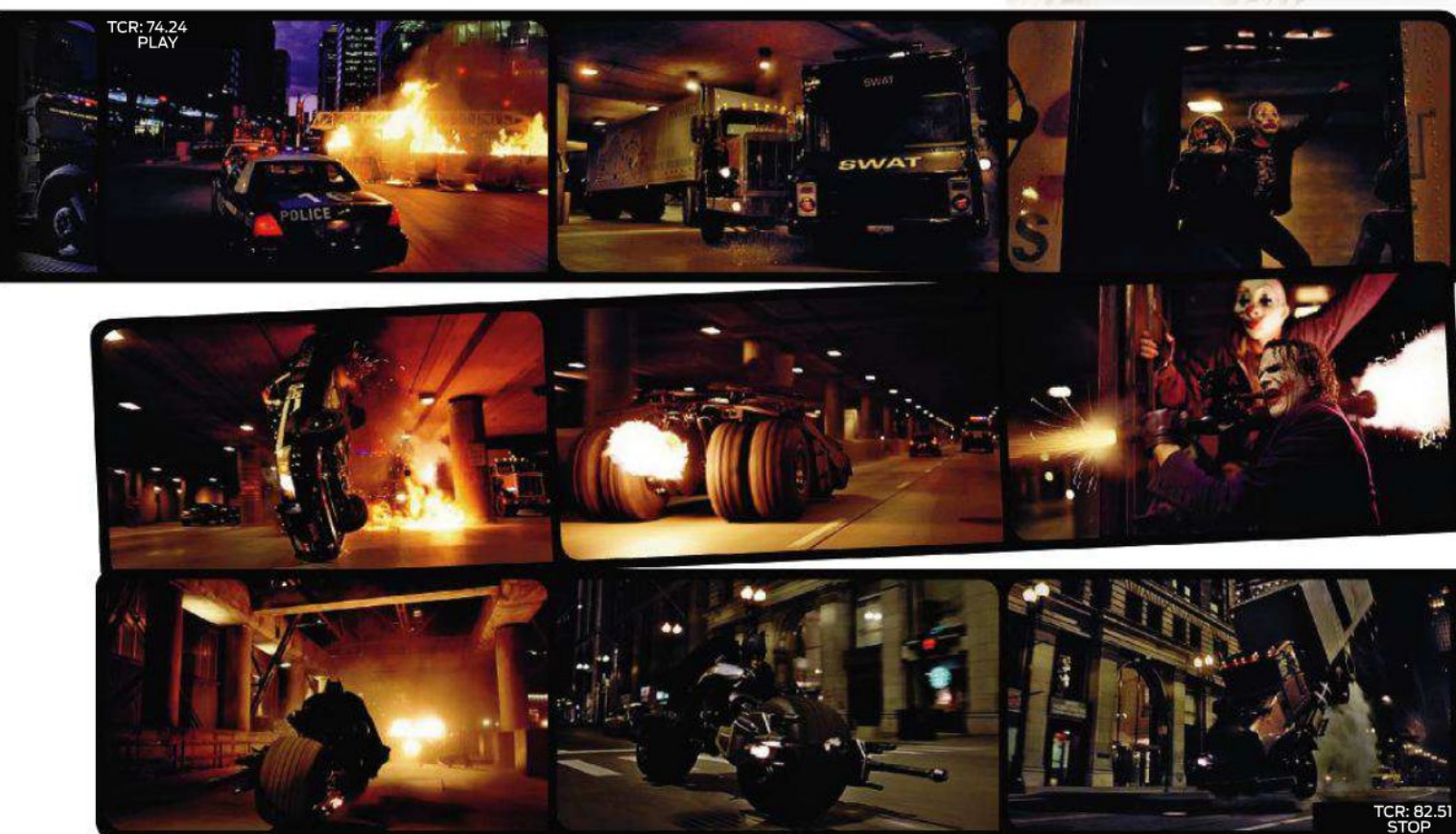
Jackass 3:
Dangerous,
crude and
ridiculous, just as
you like it

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				11 Battle: Los Angeles Earth is under attack from alien forces once again, so expect plenty of death and destruction when the film sets its sights on UK cinemas today www.sonypictures.co.uk		
14 Jackass 3 The latest <i>Jackass</i> outing hits DVD and BD in the UK this Monday. Both feature a new 'Dangerous and Dirty' cut of the film, while the BD also offers an anaglyph 3D option. www.paramountpictures.co.uk		16 Chalet Girl Today sees the UK cinema release of this 'ice cool' rom-com about a feisty young woman whose life turns upside down when she gets a job in a glitzy ski resort www.momentumpictures.co.uk		18 Submarine The <i>IT Crowd</i> 's Moss (comedian Richard Ayoade) makes his bigscreen directorial debut with this coming-of-age story. Check it out in UK from today www.optimumreleasing.com	19 Happy Birthday! Hollywood action superstar Bruce Willis turns 56 today (we thought he was older...). To celebrate, clear your schedule and kick back with all four <i>Die Hard</i> films on Blu-ray!	20 Good doggy The Jules Rimet football World Cup trophy was stolen while on display in London on this day in 1966. It was eventually found by a dog called Pickles several days later.
21 Skyline If you're not yet satiated with watching Earth being decimated by alien forces, check out this sci-fi spectacular when it lands on DVD and Blu-ray in the UK www.momentumpictures.co.uk			24 National Home Building & Renovating Show The UK's biggest self-build show returns to the NEC, Birmingham, for a four-day event that kicks off today http://national.homebuildingshow.co.uk	25 Faster Former pro-wrestler The Rock finally escapes from kiddie flicks like <i>The Tooth Fairy</i> and returns to hard-hitting action. <i>Faster</i> whizzes into UK cinemas this Friday www.sonypictures.co.uk		
28 Being Human: Series Three It's business as usual for our supernatural heroes in the latest Wales-based series of the cult TV series. Out on DVD or Blu-ray in the UK from today www.momentumpictures.co.uk			31 Sex and Violence The Motion Pictures Production Code was instituted in the US on this day in 1930 to impose strict guidelines on depictions of sex, violence and crime in films	1 Sucker Punch Hot girls, Nazis, ninjas and dragons collide on the big screen in this bonkers-looking flick from 300 director, Zack Snyder. At cinemas and IMAX screens in the UK today www.warnerbros.co.uk	2 Red scare Hollywood legend Charlie Chaplin returned to the US for the first time in 20 years on this day in 1972, after getting accused of being a communist in the 1950s	
4 Megamind DreamWorks' latest animated hit makes it to DVD and Blu-ray in the UK today. But thanks to its exclusivity deal with Samsung, there'll be no 3D BD version on the way any time soon www.paramountpictures.co.uk		6 R.I.P Best known for leading roles in Hollywood classics like <i>The Ten Commandments</i> , <i>Planet of the Apes</i> and <i>Ben-Hur</i> , legendary actor Charlton Heston passed away on this day in 2008	7 HCC #194 Your favourite home cinema magazine hits the stands this Thursday, packed to the gills with hardware tests, features, outspoken opinion and full-on software reviews www.homecinemachoice.com			

20 FOR YOUR REFERENCE...

Demo screen

Take a wild ride through AV heaven with Batman and the Joker courtesy of **The Dark Knight** on Blu-ray



The Dark Knight: Two-disc SE

Warner Home Video → All-region BD → £27 Approx

Time code: 74.24–82.51

There are three key ingredients to any great AV demo scene. Exceptional picture and audio quality are the most obvious, but it's also vital that the scene itself provides plenty of thrills and spills if you're going to be using it regularly to show off your system. Which brings us neatly to *The Dark Knight*'s armoured car chase.

While much of the Blu-ray's VC-1 2.40:1 1080p encode is plagued by obvious edge enhancement, the key action sequences all shot in the 70mm IMAX format and look simply sensational on BD where they're framed at 1.78:1. And this scene has been wowing AV fans since the disc was released in the tail-end of 2008.

Given the film's title, it's no surprise this much of it is pretty dark. But even though the location shooting meant the crew had to work with available light sources, the slightly underexposed 70mm filmstock ensures that the imagery is packed with incredible detailing and vibrant colour reproduction.

'Why so serious?'

Partnering the spectacular hi-def imagery is one of the best Dolby TrueHD 5.1 mixes around. The sequence begins with an eerie silence, punctuated by the sound of a helicopter sweeping across the soundstage and the film's score ominously building up as the action moves underground. From

there on the chase develops into a masterclass in sound design. Joker's gunfire pans your room from left to right as it peppers the wall of the armoured car, and the shriek of metal on metal rips through the mix as the Batmobile crashes headlong into a garbage truck. And then there's the Bat-pod, Batman's ingenious motorbike, which seems to be powered exclusively by deep throbbing bass.

From start to finish, this is a truly heroic demo scene, packed with incredible visuals and enveloping audio that will leave a huge smile on the face of any AV enthusiast. And one of the best action scenes in modern cinema is just the icing on the cake ●



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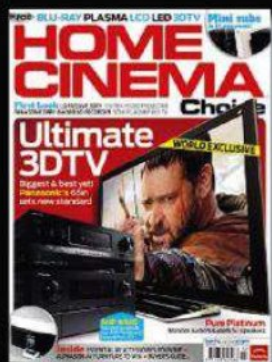
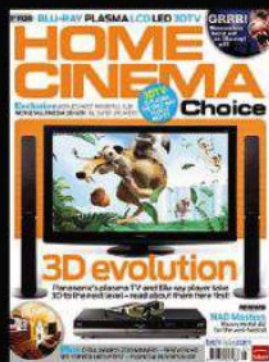
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Part 2 – stars of the East

Chris Jenkins continues his fact-finding mission to Samsung's South Korean facilities



Like its rivals, Samsung knows that OLED technology may play a vital role in the development of future TV displays. Combining many of the best points of LED and plasma, such as thinness, low power consumption and high contrast ratios, for reasons mainly of cost OLED is currently limited to smaller displays such as mobile phones.

'OLED is a fascinating device, but difficult to make in larger sizes,' said Yoonsoon Ahn, Samsung's VP of R&D for Visual Display, when, during my tour of the brand's high-tech facilities, I asked about its place in the TV market. 'The manufacturing process uses seven masks, has to be in an oxygen-free environment and the lifetime of the organic material is a problem.

'Small devices have a short lifetime, while a TV has a long one!' he pointed out. 'But we are following the trend towards OLED; we have the technology in the Samsung group.'

But could the OLED be outpaced by even newer display technologies? I was shown a prototype screen design with 5,000 zones of backlighting (as opposed to the several hundred zones of existing LED backlit LCD panels).

How it's done remains a secret, but it's public knowledge that Samsung's Advanced Institute



Screen dreams: Will OLED displays like that of Samsung's Galaxy S phone (right) outpace LCD?

of Technology is working on FED (Field Emitter Display) systems using carbon nanotubes which shoot electrons onto a phosphorescent screen, creating a sort of flat CRT. So where does this leave plasma displays?

'We will not abandon plasma,' said Ahn, 'it suits a certain group of customers who are willing to pay more for larger screen sizes. But improving the technology is difficult because of the limitations of phosphor, and investment in new technology will not necessarily bring a return.' With rare candour, he added as an aside, 'why do you think Pioneer abandoned their (plasma) products?' Yet Samsung, he claimed, will continue to produce plasma sets 'while the market requires it'.

As for passive 3D technology, while admitting the problems with viewing angles, panel costs and half-resolution images, Ahn confessed that



the technology has some good points, and said, 'if we can overcome these problems cost-effectively, we may manufacture passive 3D TVs.'

But Samsung appears to have no interest in 21:9 aspect ratio screens. 'We don't think it could become mainstream without changes to the broadcasting environment,' I was told.

Looking ahead, R&D principal engineer Simon Lee sees gesture and voice control as being features of next-gen TVs. 'We already have gesture control in games consoles, and voice control in cars,' he pointed out. 'It isn't much of a leap to imagine a remote control with a built-in mic, which will respond to speech commands, or even a TV screen that will monitor your gestures and change channel or volume with the wave of a hand.'

Secrets of the D-Cube

One of Samsung's most valuable assets is the D-Cube, a design lab where product concepts are tried out on a giant 3D display. Anything from CAD-generated product models to complete environments can be simulated here, and designers, engineers and marketers meet to refine concepts before they are put into production.

Here we met one of Samsung's rising stars, Yun-je Kang, Creative Director of the Visual Display business. Qualified in industrial design, Kang was responsible for the 2006 Bordeaux TV designs, which did so much to put Samsung on the international map.

He told us that he takes his inspiration from architecture, furniture and landscape from all over the world, with a view to influencing not just the shape, but also the conceptual direction of Samsung's AV products. So what are the key-notes for 2011's designs?

'Oneness, minimalism, simplicity of form,' he told us, speaking through an interpreter. 'The bezel is linear, merging the TV into the frame, the enclosure is minimal, unifying the inside and outside of the image and putting less stress on the viewer. Materials are harmonious, with a simplicity of form; the impact is as much emotional as aesthetic.'

All well and good, but will Kang do himself out of a job when TVs are so minimal, that they consist of practically nothing but a flat panel on a wall? 'I do want to make the bezel thinner, perhaps eliminate the casing, doing away with these preconceptions,' he admits. 'But a designer will always find new areas to work on. For instance, the brand name has to be visible – the logo appears below the screen – and the stand can be designed to be recognisable from a distance. The TV should be an item of furniture as well as a piece of electronics. If the speakers are eliminated from the TV, they have to be designed separately' – and indeed some of the 2011 sets come with optional external speakers, the design of which is influenced by Eastern pottery.

Kang's thoughts are leading him towards the TV controller and interface. 'As TV has more roles, they should play out naturally,' he says. 'The controller should not have too many buttons, it must offer speedy response and control of different forms of activity. Perhaps control by hand-gesture... and the designer must also think



Looking good: Design of TVs and accessories becomes increasingly minimalist

about simplicity of manufacture, use of materials, reducing emissions, making recycling easier.. simplicity in the whole lifecycle of the product.'

Since the Consumer Electronics Show in Las Vegas in January, we've all had a better idea of how the thoughts of Yun-Je Kang and his colleagues at Samsung have been transformed into reality. So with no further ado, let's run down Samsung's AV products ranges for 2011...

LED TVs

The style focus with the new LED TV range is on the ultra-thin One Design bezel, while the technology focus is on the Smart Hub functions – Search All, to make it easier to search for desired content on your TV, internet and DLNA-certified connected media storage devices; Your Video, which delivers recommendations based on a user's viewing history; a full Internet browser, and Samsung Apps, which offers a range of paid and free apps of all sorts. Almost all of Samsung's 40ins and above 2011 TVs will offer these connected features.

The D8000 range is a 3D LED Smart TV with 5mm brushed metal bezel, continuing the minimalist style of the award-winning C8000 Series and using an improved Quad stand.

Featuring 800Hz image processing, 2ms response time and improved LED backlight scanning, this range includes Ultra Clear Panel technology and Advanced Micro Dimming to enhance contrast.

The D8000s come with Samsung's new 3D glasses with Bluetooth connectivity, and optional TwinView Touch Control TV remote, a touch-screen remote which can also stream independent content to its built-in 3ins TV screen. Finishing off the impressive specs are built-in wi-fi and DLNA. Turn to page 28 our hands-on test.

The D7000 series is also a 3D LED Smart TV, with a 5mm black surround framed by a transparent red-tinged bezel using dual-injection mould technology. The Quad stand is slimmer and lower than last year's model. Features include Smart Hub, Auto 3D Format Setup, and improved backlight scanning technology.



Style master: Yun-Je Kang looks to European landscape for design inspiration

Eyewear

Andy Griffiths from Samsung UK speaks out on 3D glasses



Andy Griffiths, VP of consumer electronics for Samsung UK, describes the accessories market as 'a significant business that is filled with clunky, "me too" products that provide limited benefits'. So the company is planning to offer complementary television accessories that are 'unique, highly functional and beautifully designed'.

Its 3D active glasses have been redesigned to deliver enhanced picture quality, comfort, extended wear and design appeal. At less than an ounce, the SSG-3700CR are the world's lightest 3D active glasses, weighing 25 per cent less than earlier Samsung products. Meanwhile, LCD response time has been cut in half; contrast ratio improved by 150 per cent; component layout redesigned for efficiency; lighter materials are being used and Bluetooth technology implemented for simple connections.

A new temple design connecting to the top of the LCD frame allows a greater range of movement, while minimising strain and making it easier to wear the glasses over prescription spectacles. At the same time, there is an option to order special prescription lenses to attach to the SSG-3700CR.

Recharging uses either the included wired charger or an optional wi-fi charger, and motion and touch sensors automatically turn power on when moved or placed on the face, powering off when motion or touch is not detected.

Also new is the SWC-1000AC, a wireless charger using electro-magnetic induction for up to four pairs of glasses.

Integration station:

Samsung's HW-D7000 is the first internet-ready integrated BD player/7.1 receiver

The D6500 is being pitched as the model for the environmentally conscious consumer. Another 3D LED Smart TV, it has 400Hz image processing and uses a 3D Peak Algorithm designed to reduce average power consumption by about 15 per cent while increasing peak brightness by 20 per cent. Its Motion Adaptive Dimming Algorithm also reduces power consumption up to 20 per cent by controlling LED brightness, according to motion vectors in the picture, and there's a special Energy Gauge feature, which helps consumers monitor power consumption, and an Energy Saving Mode, which adjusts the backlight level to reduce power consumption by about 40 per cent.

Plasma TVs

The 2011 range consists of 16 plasma models across six product series. They offer Samsung's Plasma+1 design, featuring a new narrow bezel design, which adds an inch of viewable screen size over last year's products. Other features include the Smart Hub suite of networking functions.

The Plasma D8000 Series is a full HD range featuring a thin, dark metallic bezel combined with the Touch of Colour border. 3D capable, the range includes the Real Black Filter system to reduce onscreen glare, Crystal Full HD engine with Cinema Smooth technology to reduce judder, and 600Hz processing. The Plasma D8000 Series is WiFi compatible and uses the Bluetooth 3D active glasses and Touch Control TV remote.

The Plasma D6500 Series is a range of 1080p 3D TVs with a smooth glass-fronted cabinet and brushed metallic black frame with Touch of Colour feature. It also uses Bluetooth to connect to Samsung's 3D active glasses, has built-in Wi-Fi, and Samsung Apps, and can stream content from other DLNA-certified devices.

Blu-ray players

The new range of Blu-ray players offers both 3D and Smart Hub functions. The entire line features One-Foot Connection, which wirelessly syncs content from compatible devices that are placed within 12ins of the Blu-ray player. The D7500 is claimed to be the world's thinnest Blu-ray player, at just 28mm in height. It features 3D with 2D-to-3D conversion, up-conversion

including for streaming content, built-in Wi-Fi, Smart Hub functions, DLNA network capabilities, Samsung Wireless Link and One Foot Connection. Start-up time has been reduced to three seconds.

The D7000 is another 3D Smart Blu-ray player, with a compact and minimalist design including a hidden disc slot and wrap-around casing. It has many of the features of the BD-D7500, including 2D-to-3D conversion, full HD up-conversion, Ultra





Slim and striking:
Samsung's new, thin bezels
are easy on the eye

Fast Play, Samsung Wireless Link, One Foot Connection, DLNA certification, integrated Wi-Fi, and Smart Blu-ray features.

The D6500 is at the value end of the range, but still features 3D and Smart Hub functions, upconversion, Ultra Fast Play, Samsung Wireless Link, One Foot Connection, DLNA certification and integrated wi-fi.

Home Theatre systems

The HT-D7100 has a minimal cubic design, but has a full range of functions including 2D-to-3D conversion, and upconversion to 1080p.

Its satellite speakers have a distinctive metallic retro design, with each separate component small enough to be placed on a bedroom table or bookshelf, but it still has a decent total output of 110W. It features Wireless HD Video transmission, a wireless subwoofer, and wi-fi for access to interactive and connected content through Samsung Apps and AllShare. There's a 3D Sound system to create an immersive audio experience when watching 3D content.

The HT-D6750W is a 7.1-channel home theatre system with 3D, Wi-Fi and wireless rear speakers. A powerful 1,300W system, it features a wideband amp with a range up to 50 kHz, super-tweeter speakers, Crystal Sound Plus and 3D Sound technology. It's also the first system to feature Advanced Vertical Surround sound, where the front wall-mounted speakers are incorporated into the floor-standers for a cleaner look.

Receivers

The HW-D7000 is described as the world's first internet-ready, integrated Blu-ray player/7.1 AV Receiver. A 120W design, it can access content via Samsung Apps and stream movies and music from web-based sources such as LOVEFiLM. It has built-in wi-fi and is DLNA-certified. Connections include binding posts for speakers, four HDMI v1.4 inputs with 3D video pass, and ARC (Audio Return Channel).

Sound Bars

The HW-D570 is a 3D sound bar designed to help you upgrade an ageing home entertainment configuration with one simple solution. It features



Digital city: Samsung's Suwon complex

a digital audio effect system called 3D Audio Depth Rendering, which syncs with 3D video to create 3D sound without the need for additional satellite speakers, and has a wireless subwoofer. It supports HDMI ARC, so the user needs only one cable running from the sound bar to the HDTV.

Remote controls

An option for selected premium Smart TV ranges, the TwinView Touch Control RMC30D1 operates almost entirely through a touch screen. All content on connected components, such as Blu-ray players, DVD products and more can be watched on the remote, and when connected to a wireless network, the Touch Control can access Samsung apps, such as Facebook, Skype, Twitter and YouTube, even when the TV is off. A QWERTY keyboard appears on the touch screen when text entry is needed. The RMC30D1 has only two physical buttons, for power and function.

Wireless accessories

Helping to make the TV the centre of the home network is the CY-SWR11 wireless router. It includes Samsung's One Foot Connection, which establishes a wi-fi connection to Samsung 2011 TVs that are placed within one foot of the router, but can be moved anywhere in the house once configured.

The wireless LAN adapter provides access to connected content with Samsung Apps, and connects Samsung TVs wirelessly to multimedia devices including Samsung's Touch Control, PCs, cameras, Blu-ray disc players and mobile phones. It supports DLNA 1.5, and Wi-Fi 802.11 a/b/g/n.

TV Camera

For the (surely massive) coming market in TV-based video communications, the CY-STC1100 TV camera transforms the brand's TVs into large-screen, living-room videophones. It features a built-in HD sensor with 720p resolution, auto focus to keep the subject in focus even when shifting positions, four high-fidelity microphones to capture voice at up to 13ft away, and advanced video encoding (up to H.264). It connects to the screen via USB and attaches by magnets. A flexible camera neck wraps around the top of the TV, enabling the user to adjust the lens position. With other accessories such as HDMI cables and ultra-slim wall mounts for flat-panel TVs also on the way, Samsung seems set to make the AV accessories market part of its ever-expanding home cinema empire ●

**The home theatre systems
feature innovations from
Samsung Apps to 3D sound**





Son of Sam...

Samsung's 2nd-gen 3DTV has arrived and **John Archer** got hold of the first off the line for *HCC*



Almost exactly a year ago, Samsung won the race to launch the very first active shutter 3DTV in the UK. So it's no great surprise to find the Korean brand first out of the traps with a second-gen 3D model, too.

The 55D8000 is also the first of the new breed of truly 'Smart' TVs, combining 'net video features with a smartphone-like 'apps' system.

The screen is additionally the first TV to carry Samsung's remarkable new design, complete with a tiny

5mm bezel that's not quite invisible, but it gets mighty close.

The move to a narrower bezel has forced Samsung to increase the rear-end depth of the TV a tad versus last year's extraordinarily thin C8000 models. But then it's the front of your



TV you actually spend most of your time looking at, right?

All this, and I haven't yet mentioned the adorable 55in screen – a size with great promise for high definition and 3D movie-watching.

First impressions

It's important to stress that this article isn't a full review; not all of the D8000's online features were ready as we went to press, and there wasn't time to put the TV through our objective test labs. A full and final test will appear in the next issue.

This article is, however, based on many hours of time already spent with the 55D8000, so you should get a decent sense of the beast.

The first thing I checked out was the 55D8000's new 'Smart Hub'

multimedia/internet access area. And it's immediately obvious that this is a quantum leap over Samsung's previous content-heavy, but clumsy presented, Internet@TV system.

The icons and graphics are much more attractive and useful, the Hub's layout is more logical and accessible, and you can surf through the myriad options while still watching a reduced TV picture.

The Smart Hub also cleverly includes shortcuts to all your potential multimedia sources; from USB cards to Samsung's AllShare PC connection system and even the entire internet. Yet it does so without confusing you. Quite the opposite.

Striking, too, is its provision of dedicated areas for accessing streamed video and the brand's new Apps network, both of which are already well stocked. You can completely customise your apps, with options available including Acetrax Movies, Skype, Google Talk, betfair, LOVEFiLM, YouTube, Twitter, Facebook, Picasa, and so on.

A final key element is its universal search tool. This can trawl absolutely everywhere, including the net, for pretty much anything, making the 55D8000 feel like a mere cog in a wider multimedia and informational machine rather than just a TV.

Samsung's new optional 'touch-screen' remote control comes into its own with the Smart Hub, too, especially its touch-screen keyboard. That said, while mostly much better than last year's premium handset, the new version can still make some relatively basic tasks feel complex.

My first impressions are that the 55D8000's next-gen feel continues with its 3D picture performance. First and most significantly, **the 3D pictures look brighter and more colourful than any I've seen before**. Second, full HD 3D pictures from Blu-ray offer subjectively a greater level of detail and sharpness compared with last year's Samsung 3D models. Thirdly, the brand's new, lightweight 3D glasses are more comfortable than their forebears.

The Bluetooth-synced spex may be one reason why the screen suffers much less from crosstalk than Samsung's 2010 3D sets. This instantly makes 3D images vastly more watchable over longer periods of time. That said, although it's much reduced, crosstalk hasn't been completely eliminated – I noticed this particularly with Sky's otherwise impressive 3D channel. But

depending on how the next generation of 3D plasma TVs turns out, I suspect many will feel the 55D8000's residual levels of crosstalk a reasonable price to pay for the positive attributes of the brand's new 3D picture engine.

In HD and standard def, the 55D8000's 2D pictures improve on those of its predecessor, too. Colours are more dynamic, while black levels look deeper and more natural. The latter still can't compete with those of a good plasma panel, but they're a welcome improvement nonetheless – especially as the 55D8000 delivers an impressively consistent backlight level during dark scenes. There's a very subtle dimming of light and colour in the central third or so of the screen, but this is seldom noticeable and is vastly less aggravating than the bright 'puddles' over dark scenes that edge LED sets often struggle with.

Sound-wise, the D558000 doesn't have enough power and bass to do justice to action scenes, but it sounds no worse than most other flat TVs.

So, it's fair to say that Samsung's new range-topping TV dazzles on first viewing, from its ultra-chic looks and nifty Smart Hub to its improved 3D and HD picture quality. We're looking forward to spending more time with it...

AV/CV

Product: 55in edge LED TV with built-in active 3D playback and new Smart Hub multimedia functions

Positioning: The flagship model of Samsung's new TV range

Peers: Panasonic TX-P50VT20; Sony KDL-52HX903

Pick'n'mix: The new Smart Hub interface makes finding TV, online and networked content much easier



Shiny: Samsung continues to bestow its high-end TVs with a silver finish



→ Specifications

3D: Yes Active shutter **Full HD:** Yes including 1080p/24
Tuner: Yes Freeview HD and Freesat HD
Component video: Yes one input (rear)
HDMI/DVI: Yes four, including v1.4 option
PC input: Yes one D-Sub **Resolution:** 1920 x 1080
Sound: 2 x 15W **Brightness:** N/A **Contrast ratio:** N/A
Dimensions (off stand): 1233(w) x 30(h) x 707(d)mm
Weight: 16.2kg

Also featuring: '800CMR' motion processing; Smart Hub; open internet access; ring-fenced online features; USB media playback (MP3, JPEG, multiple video support); AllShare PC connectivity; LED Motion option; 2D-3D conversion; active 3D playback; one pair of 3D glasses provided free; Bluetooth 3D transmission system; 10-parameter White Balance adjust; 3 x USB



Adrian Justins enjoys top-class entertainment in a gadget paradise

At HCC we get to see some pretty decent home cinemas, but not many of them are as impressive as this stunning luxury home in Oxfordshire where installer Lewis Building Technology (LBT) has created a living space stuffed full of the sort of gadgets Q would give his right arm for.

But while the place may be the ultimate mini multiplex, it's been designed to suit the planet, too.

Offering control of entertainment, access, security, lighting, blinds and environmental systems, an innovative AMX system has been programmed to make energy-saving choices according to the

homeowner's wishes, while reducing pollution and fuel bills.

AMX technology integrates with the property's Sensible Heat system to deliver unified control of heating, ventilation and air-conditioning, and it's also been programmed to react automatically to external conditions and use weather information from the internet. For example, when the sun hits the windows, the blinds can lower automatically to prevent rooms from overheating, avoiding the need for air conditioning.

Fingertip control over lighting schemes is provided through integration with Lutron Homeworks. Amongst its many energy-saving

features, the system has been programmed to graduate the intensity of the lights so that the bulbs closest to the windows are dimmed more than those in the centre of the room.

As the kit list shows, there's a substantial amount of top-performing cinema kit distributed throughout the house, with 26km of Cat-6 cabling connecting every device in the house with a centralised control system in the loft.

The highlight of the install is definitely the dedicated cinema room, which incorporates high-end hardware from the likes of Epson, Pioneer, Bowers & Wilkins and NAD, but the other rooms, with Samsung LED TVs partnered with Monitor Audio soundbars, are impressive, too.

And it's nice to know that while you've got the cinema system cranked up to 11, the house is busy trying to save the polar bears... >



The master bedroom boasts a Samsung UE-46C7000 and in-ceiling Bowers & Wilkins speakers



Kit Checklist

Cinema Room

B & W: CCM818 x 5 with PV1
Epson: EH-TW5500 projector
Pioneer: BDP-LX52 Blu-ray player
NAD: T785 AV receiver
Cinemax: 200cm tab tensioned screen
AMX: NI-700 integrated controller
AMX: MVP-8400i touch-panel
Signature: 2-seater lovechairs x2
Signature: Single Seats x3

TV Room

Samsung: UE-55C7000
Pioneer: BDP-LX54 3D Blu-Ray player
Monitor Audio: Radius R1 LCR under TV
Monitor Audio: Radius 370HD subwoofer

B & W: CCM65 in-ceiling rears
NAD: T747 AV receiver
AMX: MVP-8400i touch-panel

Playroom

Samsung: UE-40C7000
Monitor Audio: Radius R1 LCR under TV
Monitor Audio: Radius 360HD sub
B & W: CCM65 in-ceiling rears
NAD: T747 AV receiver
Nintendo: Wii

Master Bedroom

Samsung: UE-46C7000
Future Automation: Electric arm wall mount
Monitor Audio: Radius R1 LCR under TV
Monitor Audio: Radius 360HD sub
B & W: CCM65 in-ceiling rears

NAD: T747 AV receiver
AMX: MVP-5200i touch-panel

Rest of House

B&W: CCM65s in all other rooms
NAD: 3 x CI9120 12ch power amp
Sky: 2 x Sky+HD
Humax: 2 x Foxsat Freesat
NuVo: Twin DAB
Kaleidescape: Mini System
AMX: 8 x 8 video matrix
AMX: 8 x 8 digital matrix
AMX: 12 x 12 analogue audio matrix
AMX: 2 x NI-3100 for main house control, alarm integration, PIRs etc, integration to Lutron Homeworks, AV systems, Sensible Heat
AMX: 1 x NX-D700vi touch-panel (kitchen)

Movie choice:

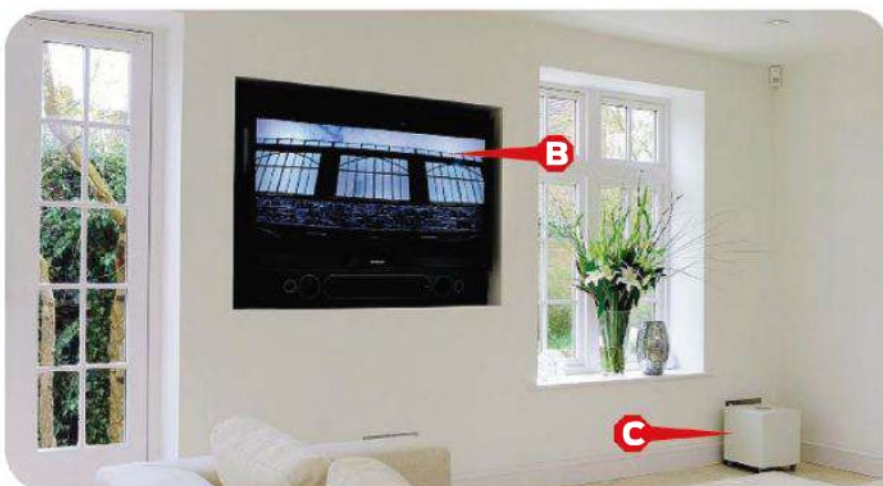
Browsing the film library on the projector screen is made even easier by the AMX full-colour touchpanel

Star gazer:

An Epson EH-TW5500 projector is mounted in the bulkhead at the rear of the cinema room



32 INSTALLS



A Touch of class

The 7in AMX NXD-700Vi touchpanel located in the kitchen provides house-wide control of numerous devices

B Spreading the love

In the TV room Samsung's UE-55C7000 LED screen is matched with the superb-sounding Monitor Audio Radius LCR soundbar

C White wonder

Also in the TV room is the cute Monitor Audio Radius 370HD subwoofer. With its white finish, it matches the decor perfectly

D Personal service

The Nevo S70 remote has a 3.5in colour touchscreen and can be personalised for every user in the home

E Go NADs

The comms room features a triple stack of NAD T747 AV receivers, which pipe seven channels of DTS-HD MA or Dolby TrueHD at 60W-per-channel to the TV room, playroom and master bedroom.

F Switch hit

This AMX 8:8 HDMI switcher can feed HD images from either of the two Pioneer Blu-ray decks and Sky boxes to anywhere in the house with an HD screen

G Sky high

The install's two Sky+ HD boxes offer a combined recording capacity of 1,250GB capable of storing 300hrs of HD shows



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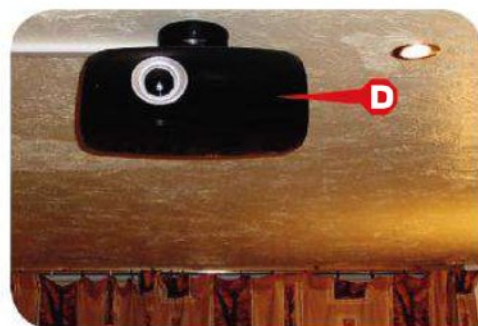
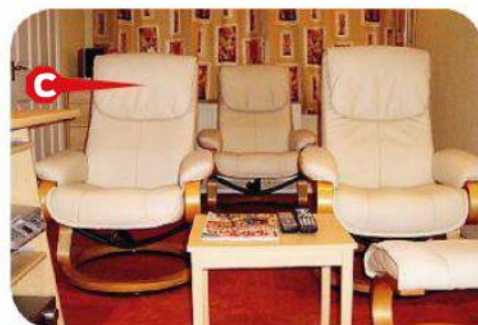
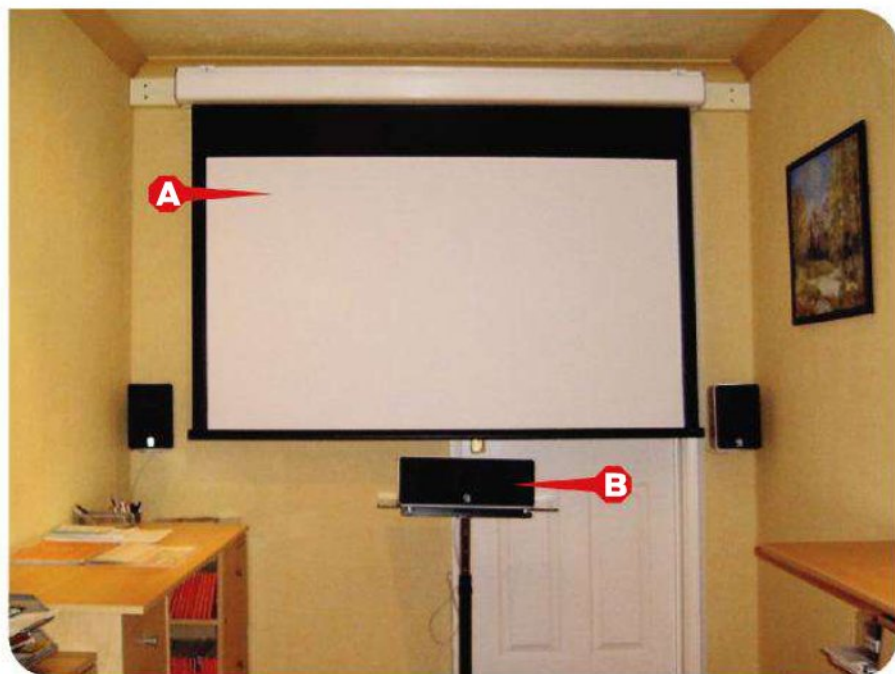
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Certified: AV-holic!

Every issue, an **HCC reader** invites you to take a tour of their beloved home cinema setup...



Gone shoppin':
Greg is hunting for
a Freeview HD
Media Centre PC

Introduce yourself...

I'm Greg Wilson, 39 years old.

When did you become an AV-holic?

About eight years ago, since purchasing a property with a room that was formally an internal garage – a perfect size for a home cinema. I started out with an all-in-one home cinema system, but I have built up to a separates setup over time.

What's in your current setup?

A 72in electric projection screen with trigger unit and an InFocus IN76 720p projector; Acer Aspire Idea 500 Media Centre PC; Panasonic DMP-BD50 Blu-ray player; Denon AVR-1906 AV receiver; and Q Acoustics 1010 5.1 home cinema array. The Acer was bought in 2006 following your review in *HCC* #134. I have been very pleased with it.

What was the last addition?

The Panasonic DMP-BD50. Since then I have been building up my Blu-ray collection – hi-def looks stunning on the 72in screen.

And what's next?

A new Media Centre PC including Freeview HD tuner. Although I subscribe to Sky+HD for general viewing in the lounge on a Sony KDL-37EX403 LCD TV, broadcast HD is not available in my cinema room.

How much have you spent on your AV habit over the years?

Around £5,000 on equipment and £3,000 on DVDs and BDs.

What does your family think of your hobby?

My mother enjoys watching films and TV on the bigscreen. She is happy that the setup is unobtrusive (due to a retracting screen). This enables the room to double as the office when the home cinema is not in use.

What's your current fave disc?

The Matrix – a thought-provoking movie trilogy that's perfect for bigscreen viewing.

Are you excited about 3D?

Yes, but only for movie viewing through a projector. I think most 3DTVs are too small to get the full effect ●

Room essentials

A Up and down

Although the home cinema room has two entrances, Greg didn't want to permanently block the door at the screen end – hence the choice of an electric drop-down model....

B Standing tall

.... and the centre-speaker mounted-on-a-laptop-stand solution

C Three's company

This cosy setup features a trio of comfy looking chairs – and copy of *HCC* on the coffee table

D Old faithful

Greg's ceiling-mounted projector is an InFocus IN76 – an excellent performer, but with a resolution of only 1280 x 720. Maybe time for an upgrade to an affordable full HD PJ?

Join the club

Do you want to see your home cinema system featured in the pages of *Home Cinema Choice*? If so, log on to www.homecinemachoice.com/avholic where you'll find all the information you need.



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REVIEWS

→ **Hardware highlights** DENON Apple AirPlay-toting nine-channel AVR
 JVC Debut 3D projector from the D-ILA king JAMO THX Select2-certified 5.1 system SONY Slick media
 player with iPlayer SHARP Style-conscious 3D BD-spinner 3VIEW Feature-laden Freeview HD PVR
 GROUP TEST Seven all-in-one remote controls go head-to-head AND MUCH MORE!

Brilliant Bravia

Why Sony's new NX713 LED TV will have its rivals quaking – p44...



HCC Ratings key

Outstanding	1 2 3 4 5
Above average	1 2 3 4 5
Acceptable	1 2 3 4 5
Disappointing	1 2 3 4 5
Dire	1 2 3 4 5

HCC DOESN'T BELIEVE IN OVER-PRAISING HARDWARE. CONSEQUENTLY, A THREE-STAR RATING SHOULDN'T BE CONSIDERED A BAD RESULT – IT SIMPLY MEANS THAT A PRODUCT PERFORMS ACCORDING TO ITS CATEGORY POSITION. A FIVE-STAR RATING IS ONLY AWARDED IN EXCEPTIONAL CIRCUMSTANCES

Control freaks' dream machine



The new AVR-4311 features
a reassuring battleship build



Denon's new flagship AVR might well be the answer to **Richard Stevenson's** home cinema needs – and his MP3 collection

It's another 43xx series Denon, Jim – but not as we know it. For the first time in a while, the latest iteration of Denon's nearly flagship receiver is not just a buffed and repackaged version of its predecessor. The AVR-4311 is a new amplifier, completely redesigned internally and bristling with features that allow it to go boldly where no AV receiver has gone before.

Top of the warp factor features list is the overall power hike, gaining a whopping 455W over the AVR-4310. Not only does that equate to a claimed 25W extra for each of its seven channels (and our Tech Labs rated its power performance very highly), the 4311 adds two further 140W power amplifiers for Dolby Height or Audyssey DSX Height/Width speakers. Better still, for those of us with space and a penchant for keeping the loudspeaker industry in business, Denon finally offers 11.2-channel, fully configurable line-level outputs. So if you already have a serious stereo front end, simply allocate front channels to line-level output, hook these up to your stereo system and use the 4311's nine channels of amplification for super-rich surround sound duty. There is even a new dedicated 'pre amp' mode that cuts the signal to all the onboard power amps, reducing current draw and associated distortions, allowing the 4311 to act as a very serious processor/pre-amp if desired.

And the machine is not just about power and channels, either. Denon's features department has been very busy implementing HDMI v1.4a with 3D switching and Audio Return Channel, Audyssey's latest MultEQ-XT 32-room EQ system, Dolby Volume and a host of networking

AV/CV

Product:
Fully networked nine-channel mid-to-high-end receiver

Position:
Top of the new xx11 series of Denon's receivers

Peers:
Onkyo TX-NR5008;
Sony STR-DA5600ES



features that elevate this humble AVR to the status of networked entertainment hub. In fact, precisely everything we said we would like to have had on the old AVR-4310 has been implemented here, and some.

All of Denon's regular networking features are joined by FLAC playback capability and direct access to your Last.fm, Flickr and Napster accounts. It can be controlled remotely over the web, supports Control4 multi-room protocol and can also be controlled by the new Denon Remote iPhone App. Okay, this is not as sexy-looking as Pioneer's iControl AV App, but it does a matter-of-fact job and works seamlessly from the outset. Assuming you have an iTouch, iPhone or iPad, once you have used the new rubber-backed and back-lit remote to set the receiver up, you might as well chuck it in storage. And it gets better still.

Along with DNLA networking compatibility, our review sample was fully enabled with Apple's AirPlay. A £39 upgrade, it enables you to stream music seamlessly

from iTunes on your PC or any iOS device (such as an iPhone/iPad) straight to the Denon via wired or wireless networking. It even brings over the album artwork to display on screen. You can play iTunes remotely with Apple's own Remote App, giving you pretty much complete control of your music and networked audio content from a single device. When I buy my AVR-4311 (sorry to spoil the review's conclusion), I will budget for an iPod Touch just to experience the sumptuous control facility.

Despite our review sample only receiving its AirPlay update the morning before it arrived, the feature setup was seamless.

Networks were recognised, music streamed and the whole operation was a heady mix of Apple's operational slickness and Denon's sonic pedigree.

The only downer right now is that the AVR-4311 does not support streaming video from iTunes via AirPlay at this time. Chances are that

these features could come at a later date, and they should only be a firmware upgrade for the 4311 anyway. There's more on this innovative new streaming tech over the page.

Doing a stretch

The rest of the new features list is equally comprehensive, with a vertical picture stretch mode for anamorphic projectors, and a new crisp 1080p GUI. Audiophile credentials are enhanced with discrete power amp modules, speaker impedance matching and direct digital input from an iPod/iPhone/iPad – allowing you to bypass Apple's awful-sounding built-in DACs.

The AVR-4311's build is suitably solid, although the cosmetics are uninspiring and I think the basic speaker binding post terminals let the side down a bit. Interestingly, Denon has finally dumped its 'Rear B' speaker outputs (originally for a second set of rear speakers at 45° behind listing position for 5.1

Well stocked:

Face it, there are probably more inputs here than you'll ever need



music) to cater for the additional height and width channels. It's also dropped a few S-video sockets in favour of another HDMI input on the rear panel.

Otherwise, connections are up there with its predecessor and the peer competition. Denon has no plans to make a proper flagship AVR-4811 to follow the 4810, and I suspect this is because much of the 4810's engineering and technology has already been grafted onto the AVR-4311 for a more affordable price.

Polished and powerful

Looking under the Denon's lid you can see a dramatic change in component lay-out and design over the old 4310, including the addition of a pair of temperature controlled fans in the bottom of the case.

The 4311 has an extra 2kg in weight over its forebear (it now weighs a hefty 17.3kg), but this is not simply the components for the extra power amps, but a beefier power supply and additional circuitry

too. So, maybe I should not have been quite so surprised when the AVR-4311 sounded even more polished and refined than the excellent AVR-4310. Using the single mic position Audyssey setup, this new receiver has incredible dexterity and a fluid sound that seems naturally projected into the room rather than emerging from the speakers. Gone is the full and fruity bass of the former 43xx models in favour of a sound that is altogether more neutrally balanced, meticulous and even-handed. It is as if Denon's hi-fi design engineers popped into the AV room during the final tuning stage and politely suggested audiophiles might actually appreciate micro-detailing and acoustic sophistication over adrenaline-crazed audio brutality.

I am not so sure, though. While one can ultimately appreciate finer qualities such as refinement and grace, most often one hankers for action movies with sex, drugs, violence, rock'n'roll and the volume wound up to +11. Clearly, the new

Specifications

Dolby Digital TrueHD: YES with Dolby Volume
DTS-HD Master Audio: YES and DTS ES 6.1 Discrete
THX: NO
Multichannel audio: YES 9 x 170W (6Ω)
Multichannel input: YES 7.1 channel
Multichannel output: YES, 11.2 channel fully configurable
Multi-room: YES, main + 2 zones
Phono-stage: YES, MM stage
Tuner: YES, AM/FM, netradio, last.fm and Napster
AV inputs: YES, 3x s-video & RCA audio
HDMI Switching: YES, 6-in, 2-out V1.4a 3D with ARC
Video upscaling: YES, to 1080p
Component video: YES, 3-in, 1-out
Dimensions: 434(w) x 414 (d) x 171(h) mm
Weight: 17.3kg
Features: iPhone/iPad/iTouch control with AirPlay and Denon Remote App, Audyssey MultEQ-XT32 Room EQ; DNLA certified; independent twin sub outputs with individual EQ; iPod digital direct input; Denon Link 4th edition; twin remote controls supplied



A Get connected

Use this Ethernet port to make the most of the Denon's nifty networking features, including audiophile FLAC file support

B Double up

The twin HDMI outputs allow this AVR to drive two displays – ideal if you have a flatscreen and a projector in your setup

C Old school audio

This array of coaxial and optical audio inputs will help connection to older components – and you Sky+HD set top box

D Radio ga-ga

Still using your receiver for FM/AM radio? You could instead browse the 10,000 net radio stations on offer... your setup

E Back to basics

These rather basic speaker binding posts are one of the few areas where the Denon disappointments

F Reaching new heights

Use these posts if you're running the AVR-4311's extra two amplifiers for front height channels

Denon bites Apple's Airplay

Music streaming to the AVR-4311 opens up all sorts of possibilities for getting audio entertainment flowing around the house

Denon's AVR-4311 is the first serious AV receiver to feature Apple's AirPlay media streaming technology. The latter was part of Apple's iOS 4.2 launch last November and is essentially a new version of iTunes for Apple's AirPort Express wireless network system. The difference this time is that AirPlay has a much wider remit, with the capability of wireless media streaming to and from any current iOS4.2 device or to any AirPlay-enabled third party electronics. If that sounds a little familiar, this is just what DLNA promised and has thus far only half-heartedly delivered.

With Airplay you can, in theory, be listening to your iPod walking down the street, enter your home and stream the music to Airplay-enabled speakers. You can stream broadcast content recorded on your PC/Mac to a TV with Airplay compatibility, or instantly display photos taken on your iPhone to any enabled display device. Media is delivered across the network with metadata including



artist, album/movie and track titles, along with cover artwork. AirPlay offers the ability to easily share your content between devices over a wired or wireless network, promising to free media from the bounds of being stuck on any one device. This is great news for fans of music, movies and general wow-factor gadgetry, and the content industry are in favour of it because it shares a single file across several devices, rather than creating multiple copies on each.

Well that is the theory. If you have an iOS 4.2 device such as an iPhone4, a Mac computer and a second-generation AppleTV, it will all work swimmingly and you can even stream to multiple devices simultaneously. In conjunction with iTunes and the Apple Remote App, the AirPlay system is a work of sublime genius. However if your living room does not look like an Apple store, AirPlay is somewhat limited. Right now you can only stream music to third-party AirPlay devices such as the AVR-4311, but not images, iTunes TV programmes, YouTube content or movies.

There does not seem to be a valid technical reason for this, particularly

as it was apparently enabled in the beta version of iOS 4.2. Certainly devices like the AVR-4311 have more than enough number crunching power to handle streamed video – particularly AppleTV's 720p files. Cynics might suggest that the decision to remove AirPlay video from third-party device drivers at launch was simply Apple wanting to ensure early adopters of the concept buy Apple's own hardware. Whatever the reason, it's likely to be early 2012 before AirPlay video comes to non-Apple branded products.

Apple Airplay makes wireless audio streaming a painless experience

Better Air quality

AirPlay streams audio as Apple Lossless, equivalent to 16 bit, 44.1kHz CD quality over wi-fi or a wired network connection. Not coincidentally at all this is standard PCM (CD format) sampling and bit depth. Music files that are stored in iTunes as compressed AAC or MP3 files are decoded and upsampled before being streamed as a PCM signal. This is subsequently decoded in the AirPlay end device using standard CD-spec digital to analogue converters (DACs). For the very best sound quality, CDs ripped in Apple Lossless format are unpacked back to their native PCM and sent over the Airplay network bit-for-bit identical to the original CD. Ironically, Apple's AirPlay offers one of the very highest quality ways of listening to music files stored on a Windows-based PC, simply because it circumnavigates the sound-quality-wrecking Windows kernel. Streaming lossless music files over Airplay to a high-end AirPlay enabled audio device such as Denon's AVR-4311 is as close as you can get to pure CD-quality sound over a network.

Remote App 2.0

Integral to the AirPlay concept is the Apple Remote App for iPhone/iPod Touch/iPad. This affords complete control over the iTunes library on your PC or Mac, complete with a GUI grafted from the iTunes music player. You can slide through albums by artwork, choose tracks, set-up playlists and even control the output volume. Enable AirPlay and the music is streamed to whichever AirPlay device you select on the App interface. Alternatively you can stream the content stored on your iPhone/iPod over wi-fi to any AirPlay device.



Black box:
But you can
get it in a
silver finish if
you prefer

Audyssey multiple subwoofer calibration was keeping my two Velodyne DD18's not only in check, but also locked up and on a leash, while the MultiEQ-XT32, with its 32x better processing than the old MultiEQ-XT, had smoothed the 4311 to the point of becoming delightfully delicate and finely poised.

In fact, the AVR-4311 was starting to sound a little too far up its own transistors, begging for a bit of Sunday afternoon Vivaldi and maybe an intellectual drama on Blu-ray in the evening with a glass of port. With the opening battle sequence of *Star Trek* on Blu-ray (a first-rate demo scene that I know off by heart) it was all getting too polite for me. Time for a fiddle.

Switching off Audyssey, Dynamic Volume, Dynamic EQ and Dolby Volume instantly put fire into the 4311's belly, but the sound then became congested with room-based reflections, standing waves and all the peaks and troughs that an EQ system generally smooths out.

The solution I found was to copy the measured Audyssey curves across to the 4311's comprehensive manual EQ adjustment mode and tune the sound by ear. I wanted to rediscover the marque's thunder while maintaining this model's fabulous clarity and precision. I wasn't sure this was possible as, inexplicably, you can't manually equalize the sub channels. In fact, it didn't take too long at all. Based on my room measurements, all it needed was rolling off a little top-end gain, negating some mid-band cuts caused by the single mic position and reducing some of the upper bass filters until

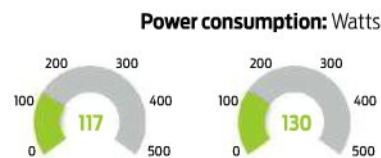
the sound was tight, punchy and ready to rumble.

Even in vanilla 5.1 mode, as the *USS Kelvin* thunders towards Nero's Romulan mining vessel, the effort with the manual EQ is immediately justified. The sound is packed with scale and thunder but the resolution of the finest nuances still manages to take your breath away. As Kirk is born amidst the chaos, the Denon builds the tension with stunning realism, crafting each sound effect as if the whole movie hangs off it. The scene is delivered as a thoroughly moving, emotionally charged, bottom lip wobbler.

Extra special

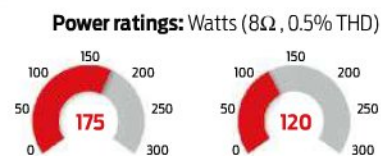
Putting the AVR-4311 into 11.2-channel mode, the 'front main' output feeding a stereo power amp, and four more speakers drafted in for height and width, the result is nothing short of a revelation. **The extra channel processing sounds as seamless as if it was mastered into the original pressing, adding another order of magnitude to the sheer scale of the presentation.** Sound effects gain substantial body and a greater air of realism. Dialogue is better focused mid screen rather than below it, and panning effects swoop from way out West to the Far East and back again.

The downside is that manually tweaking the Audyssey-measured EQ curves across all 11 channels is a labour of love and toil. Thankfully, you will only have to do it once to enjoy the rich fruits of this spectacular AV receiver. Get down to your dealer today and demand a demo – and take your credit card...



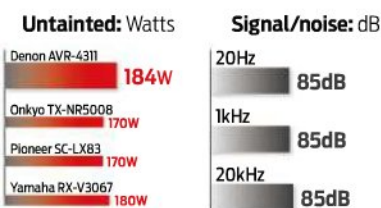
Idling: Not the most energy efficient at idle, but then again this is a beefy amplifier

Powered: Real-world consumption with movie playback averaged 130W



2-channel 8Ω: Above Denon's own claimed spec in two-channel mode

5-channel 8Ω: An impressive multichannel power measurement



Fidelity firewall:
A measurement of 184W with 0.05 THD (two channels into 8Ω) matches its high-end rivals

S/N tests:
A very low noise floor guarantees a clean sound from the AVR-4311



HCC VERDICT

Denon AVR-4311
£2,000 Approx

Highs: Polished sound; fabulous networking features including Airplay; nine powerful channels of amplification

Lows: Manual EQ required to elicit the very best sound; lacking those last two amplification channels for 11.2

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

Razor-sharp networker

Sony's upscale Network range is the place to be if picture clarity is your bag. **Steve May** is wowed by the resolution-busting NX713

Sony's Network (NX) range is not only drop-dead gorgeous, but the models are also decked out with all the latest features, including 3D, network streaming, online content and LED backlighting. But you may wonder why there are multiple versions of the same screen size. The model reviewed here features the brand's uprated PRO version of its Motionflow 100Hz picture processor and high-end Dynamic Edge LED backlighting. The latter is superior to regular Edge LED backlighting, though perhaps not as accomplished as Full Array. Imagine a halfway house that gives you the benefit of an ultra-slim cabinet (just 320mm thin) with some approximation of local dimming – for better contrast – and you'll see the attraction.

Streaming cold

Given that the NX713 sits under a Networking banner, you'd be forgiven for thinking that it's optimised for multimedia playback across a network. But, alas, you'd be wrong. This screen's streaming ability is extremely limited. A suite of test files (with suffixes covering MKV wrapped content, AVIs and DivX) located on a networked NAS was completely ignored by the TV. It could locate the folder, but the only file support was for AVCHD. The set fares better with audio – I could access my music server and stream MP3s. The TV also retrieved cover art from folders and presented it neatly on screen.

The file reader, however, was completely dependent on metadata within the files. The TV lacks the ability to go online and scrape the

Gracenote database for more comprehensive info. This is something of a missed opportunity, given that Sony owns the database!

Media playback support improves significantly when you switch from network streaming to local playback from USB. That same suite of test files became more comprehensively readable; I could read and play AVIs, complete with SRT subtitle support, and MPEG-4 files. However, MKVs remained unrecognisable. Sony should endeavour to fix this with a firmware update, because it could be a deal-breaker for some buyers.

Sony currently tends one of the busiest IPTV content gardens on the market. Its Bravia internet portal is bursting with diversions. There's catch-up services from the BBC iPlayer and Demand 5, plus Sky News, LOVEFiLM and copious clip action from YouTube and Daily Motion. The newest content addition is the brand's Qriocity PPV streaming video and music offerings. These can be found under the XrossMediaBar's Video and Music columns.

The screen also supports Bravia internet widgets, although there's little here of interest. They are the result of a deal struck by Sony with Yahoo, shortly before it decided to up sticks and go after Google. What we have is a dejected selection of Weather, Flickr and Twitter apps that are largely unresponsive.

Go with the flow

As mentioned, the NX713 offers the uprated Pro version of Sony's simplest frame rate enhancement: Motionflow 100. This doubles the refresh rate from 50Hz to 100Hz, >

AV/CV

Product: Monolithic design Dynamic Edge LED Sony screen with advanced picture processing, 3D upgradable

Positioning: Sits above the EX Essential and HX Cinematic models, but below the 3D-integrated LX Signature screens

Peers: Samsung UE46C6000; LG 42LX6900

High quality: Razor-sharp detail rubs shoulders with profound black levels



→ Specifications

Full HD: YES 1080p24

3D: YES Active Shutter

Tuner: YES Freeview HD Component: YES

HDMI: YES 4 x HDMI

Resolution: 1,920 x 1,080

Sound: 20W (2 x 8W + 10W)

Brightness (claimed): N/A

Contrast ratio (claimed): 'Mega'

Dimensions (w/o stand): 940(h) x

580(w) x 32mm

Weight (w/o stand): 16kg

Features: 3D Ready (optional Active

Shutter glasses and sync

transmitter required); Dynamic

Edge LED; Motionflow 100 PRO;

Bravia Engine 3; USB for media

playback (JPEG, MP3, AVI, AVCHD

support); Integrated wi-fi; Bravia

Internet Video Portal featuring

BBC iPlayer; YouTube; LOVEFILM

Daily Motion and more; Qriocity

music and video streaming

services; Ethernet connection;

Bravia-link CEC





No processing needed:

Even without Motionflow, moving images retain a good level of clarity

repeating frames for a smoother image. And it's extremely effective, as it turns out. The TV delivers stormingly good images.

Detail is razor-sharp while black levels are Loch deep. Motion picture resolution is also outstanding; it's possible to

retain 1080 lines of definition even with a constantly moving image by engaging the set's Motionflow100 Pro Clear or Clear Plus settings.

The screen is really quite adept even without all the processing trickery. Turn Motionflow off, and you'll still get between 650 and 750 lines of moving picture detail. A horizontal scrolling test pattern, travelling at 6.5ppf (pixels per frame), remains readable up around 750 lines. Engaging Motionflow in Standard edges moving detail up to approx. 850 lines. This is a good option if you're adverse to the effect high frame rates can have on the texture and character of film material.

The panel is also astoundingly smooth when it comes to pans, even with Motionflow and Film mode turned off. There's none of the horizontal judder that can often blight flat panels.

On the debit side, the set's LED backlighting is predictably uneven; with a black screen you can see light filtering in from the corners. It just doesn't seem possible to get balanced illumination from LEDs placed along the edge of a screen.

Tellingly, a 10 per cent grey backdrop was subjectively even from corner to corner. It could be argued

that this is more representative of general viewing.

Take the 3D plunge

Although the NX713 is 3D-ready, you'll need to add an optional TMR-BR1003D Sync transmitter and TDG-BR100B 3D glasses to go deep-screen diving. The sync transmitter connects to the rear of the set, and sits on the stand like a downsized Kinect sensor.

Overall, 3D performance is fine, without being outstanding. Images are bright enough and there's good colour retention, but crosstalk double imaging is clearly evident.

The set offers Plus or Minus adjustment tools, both for the brightness of the glasses and 3D depth. The Minus adjustment brings objects in positive parallax into focus, while the Plus adjustment does the opposite. After much trial and error, I decided that the set was best left in its default mode. Whatever direction I took, it was just not possible to dial out crosstalk effects; they remained on the wrong side of bad.

If you run out of 3D content you can always experiment with the set's 2D-to-3D converter, but effects are highly unpredictable and dependent on the clarity of the source image. For the best results, use an HD source but don't get your hopes up, since essentially you're only adding crosstalk to a flat picture.

While the TV is a star visually, its audio performance is perfunctory. There's not a lot that can be done to put flesh on its sibilant bones. You can specify if the set is either wall or table-stand mounted, or muddle around with four sound presets.

The 40NX713 ticks all the right boxes. It's 3D-ready for those who want to upgrade at a later date, has a well-stocked IPTV garden and it looks simply divine. More importantly, its picture performance is first rate. The level of detail retained on screen is phenomenal. For lovers of sports or action movies, this set is a must-see.

Net down

Ironically, where the NX713 does find itself lacking is media streaming. It offers precious little video compatibility over a network (that DLNA badge is clearly no indicator of usefulness), and even local USB support is limited. On the plus side, its presentation of MP3s is at least classy. But when it comes down to all-important picture quality, this Sony doesn't disappoint. Indeed, it's rather fabulous ●

→ Tech Labs

Power consumption: Watts



White screen: LED technology helps this Sony offer a low power consumption with our 100IRE screen

Test footage: In our real world test with audio, we measured a modest increase in energy usage. Max consumption was 111W.

TV Contrast: Ratio



Picture: An impressive real world contrast ratio – and a good Luminance of 60.9fl

Colour accuracy



Presets: The Warm 2 colour temperature preset is very close to the 6,500K ideal
Cool: 9,520K
Neutral: 8,785K
Warm 1: 7,774K
Warm 2: 6,491K



HCC VERDICT

Sony KDL-40NX713
£1,000 Approx

Highs: Outstanding HD picture with exceptional motion picture clarity; Freeview HD tuner, integrated Wi-Fi

Lows: External 3D sync transmitter required; limited media file support

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5



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Cost-slashing box

JVC's affordable 3D lightbox ushers in a new era for D-ILA home projectors. **Steve May** dons his 3D glasses for a look-see



Spex appeal:

One pair of 3D glasses are supplied with the X3, as well as the external sync transmitter

JVC has built a towering fan base around its D-ILA projectors.

They've earned a reputation for industry-leading black levels and image clarity, yet crucially are not the most expensive in the market. Now the brand has upped the ante by making its entire 2011 range 3D-compatible. The buzz about these three models has been so great, JVC sold out its entire first shipment almost immediately after they were announced.

Perhaps this is because JVC's proprietary D-ILA technology offers several benefits over LCD and DLP. The extraordinary contrast they offer is native and not dynamic. This means that a D-ILA projector does not require an automatic iris to manage light output; there's a uniformity of deep blacks and peak whites in every frame, with no mechanical iris hunting from scene to scene.

The DLA-X3 reviewed here is the cheapest model in the group, yet it claims an impressive 50,000:1 native contrast ratio.

Naturally it also helps that the unit is attractive. The centre-mounted lens and symmetrical air vents give it a neat, balanced look. All the input terminals are at the rear, allowing for straightforward installation and cable runs.

These air vents (protected by what looks like chicken wire) are larger than we've seen before, principally because the new 220W Short-Arc High Efficiency UHP mercury lamp runs hotter than previous bulbs. **One reason why the projector throws out more light, around 1,300 ANSI lumens, is so that it can compensate for the filtering effect of 3D spex.** JVC quotes a lamp life of around 3,000 hours in Normal mode.

The DLA-X3 should fit most home cinema spaces; it's able to throw an image up to 200ins across within a projection distance range of 3.01m to 6.08m.

3D and more

It's not just 3D compatibility that's new for 2011. JVC has fundamentally redesigned the D-ILA optical engine on the X3. A new device driver and wire grid mean even less pixel visibility. The result is an astonishingly smooth and cinematic image, with astounding black levels. Also new this year is the provision of Adobe RGB, DCI and sRGB colour profiles, expanding the projector's appeal

beyond mere Blu-ray playback. Gamers and digital photographers take note.

Despite an obvious long-term commitment to 3D, both with its projectors and, increasingly, its camcorder lines, the provision of a separate 3D sync emitter (PK-EM1) strikes me as a little short term. Unlike Sony, which has built the sync transmitter into the lens barrel of its own 3D projector (the VPL-VW90ES, reviewed in *HCC* #192), JVC has elected to keep the unit separate, meaning you'll need to hardwire it directly to the rear of the projector yet somehow accommodate it within your install.

The reason given is that 3D is being sold as an optional extra in most sales territories. However, JVC UK has elected to include the transmitter and a pair of glasses as standard.

The projector supports frame sequential 3D Blu-ray, Side-by-Side 3D as used by Sky and other broadcasters, plus other formats you'll probably never need.

Googlers should be aware that the X3 has a sibling model from JVC's Pro division, the DLA-RS40. Outside of the nomenclature there's no difference in the product. Similarly, the DLA-RS50 and DLA-RS60 correspond to the DLA-X7 and DLA-X9 respectively.

Punchy performance

I was expecting the DLA-X3 to be a wow and I wasn't disappointed. This is home cinema on a near professional scale. Motion picture resolution is excellent; JVC's proprietary double-speed Clear Motion Drive technology has been tweaked to better reduce motion blur, and now offers the choice of both frame interpolation and black frame insertion techniques. You'll find these lurking under the Mode

AV/CV

Product: Entry-level 3D compatible D-ILA home cinema projector

Positioning: Below two THX certified 3D models in the JVC range – the £6,600 D-ILA-X7 and £9,600 D-ILA DLA-X9

Peers: Sony VPL-EW90ES; JVC D-ILA DLA-X7

→ Specifications

3D Ready: YES Full HD: YES 1080p24
 Component video: YES one set of inputs
 HDMI: YES 2 x v1.4 PC input: YES D-Sub 15-pin
 12V trigger: YES one output Resolution: 1,920 x 1,080
 Brightness (claimed): 1,300 ANSI Lumens
 Contrast ratio (claimed): 50,000:1
 Dimensions: 455(w) x 179(h) x 472(d)mm Weight: 14.7kg
 Features: Three D-ILA 0.7in panels; 3D compatible (frame sequential/side by side/ top and bottom); 220W Ultra High Pressure Mercury lamp; backlit remote control; Clear Motion Drive with both black frame insertion and interpolation presets; 16-step lens with a double aperture; zoom focus and lens shift and keystone control; projection picture size up to 200in from a distance of 3.01m, auto-motorised lens cover; video formats supported – 480/60i, 576/50i, 480/60p, 576/50p, 720/60p, 720/50p, 1080/60i, 1080/50i, 1080p24 (HDMI input only)



Contrast magician: a D-ILA projector delivers deep blacks and peak whites without the need for a mechanical iris

settings. Modes 1 & 2 utilise black insertion between frames, while Modes 3 & 4 use frame interpolation. Even if you choose not to use Clear Motion Drive, the projector is largely free from panning judder.

As a 2D full HD projector, the X3 is fabulously good for the ticket price. Images are richly detailed, with excellent black levels and intense colours. Shadow detail and textures create image depth, even without the need to don 3D glasses.

Going native

A standard scrolling test pattern, without the projector's Clear Motion picture processing engaged, delivers a native moving resolution of less than 700 lines at 6.5ppf (pixels per frame). With Blu-ray footage, this translates to a naturalistic cinematic picture. However, engage Clear Motion (I preferred Mode 1 from the several available) and detail bristles up to 1080 lines. This translates to a super-crisp image. I did note a slight, left-hand shadow on our scrolling test image, although this was not apparent on real world footage. When I increase the speed of the scrolling pattern to 12.5ppf, image detail is still held, but that greenish shadow became more prevalent.

The wider colour gamut offered by the projector needs to be treated with caution. Wider gamut may seem a good idea, and look nice on a chromaticity chart, but switched on some hues become far too vivid (particularly red) with standard HD content. Perhaps some might like it for video games (if you want to add a level of glam to FPS gore), but for movies? I don't think so. My advice is keep colour on the Standard setting.

As a standard-def projector, the model also shines. Interpolation is excellent and the model aced our jaggies tests. Good news if you have a large DVD collection.

The projector's 3D performance raises some issues, however. To compensate for light lost through the

JVC-branded Expand 3D glasses, there is a dedicated 3D mode in the menu. Activate this and the projector immediately boosts colour and brightness; the lamp similarly leaps to its High setting with a corresponding increase in fan noise. Although the optimised 3D mode works well with some content, I actually felt it was often too glary. With *Ice Age 3*, the image was bathed in an icy glaze. A better balance could be obtained with the settings fine-tuned for 2D.

Seeing double

Which brings us to the ongoing phenomenon of crosstalk: regrettably, I have to confirm that the DLA-X3 does suffer from double-imaging. This became immediately apparent on the positive parallax credits of *Monsters Vs Aliens*, as well as the positive parallax verticals of the accompanying church steeple. Similarly, when Scully comes out of cryo at the beginning of *Avatar* (3D Blu-ray), it's also evident on the fins and struts of his space ship.

It's worth noting that the projector offers no specific onboard parallax control, unlike Sony's rival VPL-EW90ES. You can't tune out double imaging in the foreground or minimise crosstalk manually. What you see is what you get.

On the plus side, the 3D images can be as bright as you want and there's demonstrable depth to its stereoscopy. It's worth noting that the Clear Motion Drive picture processing is switched off when the projector is handling a 3D source, and you can't manually opt to activate it.

The DLA-X3 is a seriously desirable home theatre projector, with a 2D performance that's ridiculously fine for the money. The DLA-X7 and DLA-X9 models may offer superior contrast, but there's nothing here to really grumble about. Black level performance and fine detailing remain top dollar. The X3 is also well built and at 20dB, whisper-quiet in operation. Its 3D performance is similarly exciting, although there remain some issues with performance and execution. The separate sync transmitter is inelegant, and there's also that thorny issue of crosstalk. Many viewers will doubtless be able to ignore the latter (3D is currently little more than a fun diversion, after all), however, I still feel there is work for JVC to do in this area. It'll be interesting to see how the step-up THX-rated models compare ●

→ Tech Labs

Power consumption: Watts



White screen:
This amount of energy consumption is common for a projector of this size

Test footage:
Power output does not change when watching live footage. Set on high output, energy usage jumps to 307W

Contrast: ratio



Picture: Very good real world contrast ratio. Contrast ratio jumped to 73,468:1 using the 3D setting

Colour temp: Kelvin



Presets:
With the numerous tweaks available, we were able to achieve a perfect white temperature of 6,500K. Of the CT presets, we measured 6,000K as closest to 6,500K.
High Bright: 7,701K
6000K: 6,289K
6500K: 6,791K
7500K: 7,744K
8500K: 8,748K
9500K: 9,274K



HCC VERDICT

JVC DLA-X3W
£3,600 approx

Highs: Gorgeous 2D performance; excellent fine detail; versatile picture controls; low operational noise; good motion resolution

Lows: No THX preset; crosstalk

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

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3D home thin-ema

Steve May looks for substance behind the style of Sharp's first 3D spinner

Sharp's first 3D player elicits gasps when you unpack it. The wafer-thin design, with black top-plate and gunmetal trim, is certainly dramatic. You can even choose how you want to use it: flat or vertical (a plastic stand is included).

To flatten it even more, the power supply has been relegated to an external 12V brick. There's no disc loading tray, just a slot mechanism that sucks your platters in. And the HDMI output, optical digital audio out and power lead have been inventively recessed in the base.

The player is one of the first to emerge from the joint venture company created by Sharp and Pioneer. But, while the unit is a cutting-edge piece of manufacturing, it lacks some of the operational niceties we've seen from rivals. The UI is stuck in the past, with its flat, terse menus, while there's a lack of apps and IPTV access. More

Wafer thin: The power supply has been stowed out of sight in the base

significantly, it lacks the ability to stream media across a network. This is a missed opportunity, given that the unit has integrated 802.11n Wi-Fi. Networking is provided for firmware updates and to support BD-Live.

However, there is no local storage onboard; you need to provide your own memory stick. Of course, having a thumb drive sprouting from the front panel rather spoils the sleek aesthetic. It's a pity there's no second USB port hidden within the connection well. The player does offer USB media playback, although codec support is a little light. Music only holds truck with MP3 and video plays AVIs (with subtitles) but not MKV. Sharp's TVs tend to offer better compatibility. Music playback is sans album art.

Waiting game

Loading speeds on the HP90 are rather slow, with our Tech Labs commenting that it's one of the slowest decks it's ever come across. The deck has some picture issues, too, mainly with DVD playback – it struggled with the standard HQV jaggies tests. Sweeping bars on the test pattern are far from smooth, and the classic fluttering flag reveals staircase deinterlacing problems.

Blu-ray is more forgiving than DVD and video quality here looks fine. It's no better or worse than most of the players in this class. Take care if you visit the video input settings menu, though. Select 1080p or 1080i (which may seem a perfectly reasonable thing to do), and the resulting image will most likely be subject to ruinous judder. The only HDMI video option you should use is Auto. It would seem that when you select a 1080-line HDMI specific video output, the player is forced into a 1080/50 mode. Given that most Blu-ray software is 1080/60, the result is a horrible mess. As a 3D disc spinner the HP90 performs well enough, although there are no specific 3D tuning tools available.

Overall, Sharp's BD-HP90 is a splendid piece of CE design, albeit one saddled with rather ordinary performance and a high ticket price

→ Specifications

3D: YES
Upscaling: YES up to 1080p
Multiregion: NO Region B BD/R2 DVD
HDMI: YES one v1.4
Component: NO
Multichannel analogue: NO
Digital audio: YES optical
SACD/DVD-A: NO
Dolby True HD/DTS HD decoding: YES
Dolby True HD/DTS HD bitstream: YES
Profile 2.0: YES
Dimensions: 430(w) x 36(h) x 218(d)mm Weight: 2.3kg
Features: Ethernet, Wi-Fi; USB; DivX HD certified

→ Tech Labs

Power consumption: Watts



Idling: A fairly low power consumption when the Sharp is ticking over

Powered: Likewise, in use the BD-HP90S isn't that hungry either

Loading: Boot/Java

Power Up to Player Menu

27s

Disc in to main BD menu

122s

Disc loading & Java:

Start-up was painfully slow, as was loading of our standard BD movie disc



HCC VERDICT

Sharp BD-HP90S, £300 Approx

Highs: Eye-catching design

Lows: 1080/60 playback issue; no network streaming or MKV support; slow to load discs

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

Mains-lining to the video vein

Martin Pipe tries a networking solution that bridges wi-fi and powerline

Powerline networking, which uses your home's mains wiring to transport data, has become quite popular. But there can be messy cables to deal with, and when you discover that one of your items is 'wi-fi only', and there's not enough signal from your existing router, this product comes to the rescue. This kit consists of 200Mbps HomePlug AV network adaptors, incorporating a Wireless 802.11n extender.

Highs

- Setup is easy. If you're out of cables, an Ethernet patch cord is supplied. On the base of the larger second unit, you'll find a 'sec ID' printed on a label. Power up your wireless device, and look for a strong signal (id Devolo). Connect, and enter this 'sec ID' as a passphrase via the WPA2 security.
- Wireless can be turned off and the larger plug also incorporates a

three-port Ethernet hub for devices with conventional 'wired' connections such as desktop PCs. For those with large houses, the integral wireless repeater is a great way to improve wi-fi coverage.

- The system performed well. A Samsung notebook PC was connected wirelessly, and over 200MB of data was transferred to another PC via the network in about 90secs. Streaming video to devices connected to the Ethernet ports fared well, too.

Lows

- 'Dirty' mains supplies and the use of filters or conditioners can affect performance. We recommend plugging the adaptors directly into wall sockets.
- It's essential that both units are on the same mains circuit. If they're not, they won't find each other – that's where the status LEDs can help you.



Plug'n'play:

The larger of the two plug incorporates a three-port Ethernet hub

HCC VERDICT

Devolo dLAN 200AV wi-fi N HomePlug
£110 Approx

Overall: 1 2 3 4 5

NANOSTICK T2 290E → £100 Approx → www.pctvsystems.com

Terrestrial Terminator

Martin Pipe tries the world's first PC tuner to support DVB-T2

Until now all of the digital terrestrial tuners sold for use with PCs complied to the old DVB-T standard. But all HDTV transmissions employ the newer and more efficient DVB-T2. The T2 290e, a tiny and stylish USB 2.0 dongle, is the first to be compatible with both. It can be used with notebooks or installed on desktop machines.

Highs

- The main program, known as TVCenter, is sensibly designed. As with modern set-top boxes, initial configuration and tuning channels is a wizard-driven process. It's also easy to use and offers all essential features. These include the selection of subtitles and alternative soundtracks, and a smart grid-based EPG for scheduling recordings (radio or TV) and channel changes. Timeshifting is also supported, and you can arrange for

recordings to be transcoded into various formats, such as DivX, MPEG 1/2 or PSP/iPod-compatible MPEG 4.

- Sensitivity also appears to be good. Crystal Palace's HD channels were received reliably, from our location some 40 miles away. The decision to adopt BDA drivers, instead of proprietary ones, is handy, because it means you can use the T2 290e with alternative digital TV software. I was able to partner it with the DVbViewer program.
- Picture and sound quality, especially with HD channels, proved to be excellent on our regularly-updated Yoyotech PC.

Lows

- The software and drivers CD-ROM is Windows-only – there's no Mac support. Also on this disc is DistanTV an application that streams the current programme/recording to another computer (PC or Mac) on your home network, or via the internet at large. A neat feature (it makes remote recording possible, too), but I couldn't get it to work; a 'stream not available' error put an end to my excitement.
- Decoding and displaying HD channels is a punishing task, and so you'll need a super-fast PC. PCTV recommends a multi-core 2.6GHz processor for HDTV.



HCC VERDICT

Nanostick T2 290e
£100 Approx

Overall: 1 2 3 4 5

In Brief

Humax Portal
£Free,
Humax



Launched in early Feb, the Humax Portal is an IPTV service for its net-connected FOX T2 set-top boxes. Current features in its Beta iteration include BBC iPlayer, Sky Player, internet radio and Wiki @TV – welcome additions to Humax's already impressive hardware. It'll be interesting to see what's added in the coming months

1 2 3 4 5

Yeehaw! Big sound is over here

Danny Phillips gets to grips with some giant US-made cabinets

US brand EMP Tek was founded as recently as 2007, but was set up by audio boffins with over 30 years' experience, designing speakers for esteemed names such as ParaSound, McIntosh and JBL. They've been brought to the UK by distributor Aldous Systems, which has set the ball rolling with the Impression series. Although this range includes four off-the-peg packages, this 7.1-channel system has been pieced together from the individual components. The tower speakers used for the front and rear channels are the E55Ti, a slightly taller version of the E5Ti towers, but offering greater power handling than their shorter siblings.

Backbreak mountains

These American-made towers are stereotypically big-boned – 1.2m and 23kg of pure beef – but they're also elegant, thanks mainly to the gently curved sides that taper off toward the back. Traditional yet trendy, they're fashioned in a dreamy and somewhat unusual high-gloss Red Burl finish, with Black Ash as the equally stylish alternative. You might break your back unpacking them, but you're getting a lot of speaker for your money.

Nestled inside the three-way E55Ti is a trio of 6.5in poly matrix woofers providing the necessary low-end punch for two-channel use, plus two 5.25in aluminised poly-matrix midrange drivers with fixed phase plugs, and a 1in poly-silk soft dome tweeter lined up in a mid-tweeter-mid (D'Appolito) arrangement. The magnetic liquid cooling used for the tweeter ensures higher power

AV/CV

Product:
7.1 floorstanding speaker system

Positioning:
EMP Tek's top UK range

Peers:
Monitor Audio Silver RX6 AV12;
Teufel System 8
THX Ultra 2;
Klipsch Icon



There are 32 – count 'em – drivers in this EMP Tek 7.1 array



handling with a current-limiting polyswitch on hand to prevent it from being overdriven.

Sending the right frequencies to the right drivers is a computer-optimised crossover network, which uses the minimum amount of components to minimise driver interaction.

Fine craftsmanship runs throughout the system, which is made up of the E5Ci centre speaker and a pair of E5Bi bookshelf speakers on surround back duties. They're all fitted out with the same 5.25in woofer and 1in dome tweeter found in the towers to achieve that all-important sense of homogeneity across the system.

The centre speaker features two woofers, sitting either side of the fabric dome tweeter. Like the towers, their construction is nigh-on faultless, but if you're harbouring thoughts of perching the centre speaker on your TV stand, think again – at 55cm wide and 20cm deep, it's a bit of a beast.

Anchoring the system is the ES10i, a front-firing sub that easily matches the stature of the other speakers with first-rate build quality. This isn't a sub you'll necessarily want to hide away in the corner, as its curved edges and Red Burl enclosure give it an unusually chic appearance.

Of course, it's a powered affair that packs a 100W amplifier and a 10in poly-matrix woofer, ready to unleash on your neighbours. There's a built-in limiter to stop it from bottoming out and a full buffet of controls on the back panel, including dials governing gain and crossover (ranging from 40 to 180Hz), line-level input and outputs, a switch that flips the phase 180° plus two sets of high-level springclip terminals.

These controls make the sub a cinch to integrate. It took no time to find the sweetest crossover point for my test room and lock it into the other speakers. **In fact, apart from hauling them into position, you'll find the entire system is easy to install.** All the bits and pieces you need are in the boxes, such as the spikes needed to de-couple them from the floor, and each speaker is equipped with sturdy gold-plated binding posts.

Get them up and running with a decent Blu-ray soundtrack and the EMP Tek's will take you to home cinema heaven. When playing *Inception*, for instance, they have no

trouble conveying the epic scale and of Christopher Nolan's unbelievable in-dream action sequences. The sound is crisp and urgent, and easily fills the room.

Right off the bat you're plunged full-pelt into Sato's dream-within-a-dream vortex of huge rumbling earthquakes and Japanese architecture being torn apart in a flurry of cracking wood and crashing glass. This is all blasted out with considerable relish by the E55Ti's poly-matrix cones. These are fast, dextrous drive units, able not only to convey effects with bite but also to sift out small sonic details like a prospector panning for gold.

High-frequency reproduction is gorgeous. The E55Ti's tweeters

articulate twinkly top-end, such as Cobb's ice cubes rattling in his glass, with a smooth, perky quality, and even the brightest effects at top volumes couldn't phase them.

And with two of these towers also running things at the back of the room, there's a fullness and grandeur right across the soundstage that's impossible not to love. They easily tease out gentle ambience and subtle effects, but when the ante is upped they can shoot loud effects towards your head with the same snap and vigour as the fronts.

When playing the 7.1-channel mix on *Hellboy II: The Golden Army*, the E5Bi surround backs hold their own next to these behemoths. It's a seamless rear soundfield, reproducing the 360° sweep of effects during the Troll Market scene with pleasing clarity and accuracy, beautifully shaping every little flutter and tinkle.

I also tried the system with two sets of E5Bis at the back and, although you lose a little of that all-round richness, they still conjure up a wonderfully absorbing atmosphere.

There's also a lovely robustness to the midrange, which keeps *Inception's* verbose dialogue consistently audible throughout the quiet and the carnage. Unplugging the sub, I soon discovered the value of those three woofers, too. In isolation they provide plenty of punch, which makes music sound wonderful in a straight stereo setup. It falls short of the absolute silkiness of the very best systems but for the money it's a sterling effort.

For movie listening the sub adds another dimension. Taut, potent and free from unwanted resonance, it fuses with the towers and injects healthy doses of deep bass. It doesn't

have quite the same fearsome, foundation-shaking power as subs from some similarly priced systems (Teufel's THX Ultra 2-certified System 9 springs to mind) – but it's not far off.

Welcome to Blighty

So, all things considered, does EMP Tek deserve a place on the busy home cinema highway? Emphatically so. It makes a sensational UK debut with a system that's got the lot – power, dexterity, smoothness and exceptional clarity – all of which will leave a lasting Impression ●

→ Specifications

E55Ti fronts and rears

Drive Units: 3 x 6.5in poly-matrix woofers; 2 x 5.25in aluminised poly-matrix midrange woofers; 1in fabric dome tweeter
Enclosure: Sealed
Frequency Response: 40Hz-20kHz
Sensitivity: 88dB
Power Handling: 200W
Dimensions: 216(w) x 1207(h) x 311(d)mm
Weight: 24kg

E5Bi surrounds

Drive Units: 5.25in aluminised poly-matrix midrange woofer; 1in fabric dome tweeter
Enclosure: Sealed
Frequency Response: 60Hz-20kHz
Sensitivity: 85dB
Power Handling: 100W
Dimensions: 175(w) x 324(h) x 203(d)mm
Weight: 3.4kg

ESCi centre

Drive Units: 2 x 5.25in aluminised poly-matrix midrange woofers; 1in fabric dome tweeter
Enclosure: Sealed
Frequency Response: 60Hz-20kHz
Sensitivity: 87dB
Power Handling: 120W
Dimensions: 552(w) x 184(h) x 197(d)mm
Weight: 5.22kg

ES10i subwoofer

Drive Unit: 10in poly-matrix cone
Enclosure: Ported
Frequency Response: 35Hz-150Hz
On board power: 100W
Dimensions: 359(w) x 381(h) x 413(d)mm
Weight: 12.25kg
Connections: Phono line level in and output; speaker level in and output



HCC VERDICT

EMP Tek Impression
Approx £4,000

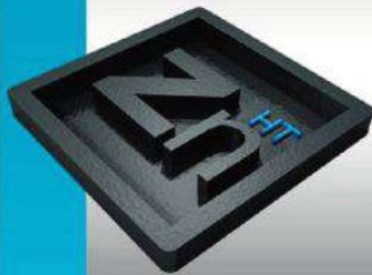
Highs: Thrilling, large-scale sound; sweet high-frequency reproduction and forthright midrange
Lows: Other systems offer greater bass depth and musical fidelity

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5



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Squeal of approval

Adam Rayner worships at the church of THX and the surround sound spec that's become the gold standard for serious speakers

To be fully THX approved, every single aspect of the system that plays a movie has to meet the THX criteria – and pay a fee to wear the coveted badge. The certification on the Jamo D500/D500 SUR speakers is proudly reproduced in their printed manuals. It's THX Select2, signalling they are a bit less intense than Ultra2 and designed to better suit European living spaces.

The surround speakers are smallish slab-like boxes in two

variants. A sealed left/centre/right (LCR) called D500 with five drivers, and a D500 SUR for use as a side or rear with the same number of speaker units in it, but differently arranged and a bit quieter.

In the D500 LCR, you find two workmanlike drivers to do the bang and the low register, one on each side of the front face beneath the Jamo/THX double-badged cloth grille. There are also two 3in midrangers, and a high-efficiency tweeter nestling in between.

But what matters most is the THX Select2 certification, which decrees that thine rears shall be diffuse dipolar types. So, on the D500 SUR, there is a single 5in driver under the grille firing forwards, plus a 3in and tweeter firing out of each end of the cabinet, along the walls in a dipole up and down, diffuse style.

The sealed box woofer, called D650 (for its peak wattage) is pretty and simple, with its blue LED-framed volume knob on the front. You get a 12V trigger socket on the back

Built for you:

These THX Select2 speakers are designed for more modest sized rooms

AV/CV

Product:
5.1 THX Select2 speakers

Position:
Below the D600 Ultra2 range in Jamo's THX stable

Peers:
Teufel System 5; Klipsch THX Select 2; M&K 950 THX Select 2



for systems control and there's a nifty room boundary compensator knob to go with the continually variable phase. So if needs be, you can put the woofer in a corner, yet tame any mad room-boom thus induced with this control. This keeps bass better defined. You can set this by clever use of a real-time analyser in a full THX install, or simply do it by ear, as I did.

The amp in the woofer is a BASH design and that means bigger grip than the wattage might suggest. The 12in speaker oozes power and control. The manual tells you that just one of these subs will hit the THX Select2 spec. (For an Ultra2 system you will need two of them).

Spinning up some five-channel music, I quickly became dissatisfied. My taste runs more to the sitting-on-stage-looking-out-at-the-audience sonic scenario, but THX is more suited to the classical live music recording where you will want only room ambience and even the shifting of feet and audience coughs rather

than focused effects. Cinematic soundtracks showed the system's ability much better.

Iron Man 2 on Blu-ray delivered an immediate slap to the senses. It was huge and wonderful fun. This setup has some real oomph, but the sheer detail, articulation and effortless sonic placement is even more impressive. The weight of the sound as you see Iron Man fling himself out of a military transporter was tangibly in the room, hitting me pleasantly in the sternum.

The real skill of these THX speakers is their ability with detail and accurate placement of sound elements while under massive pressure. When a lot is going on, the director can still grab your attention with incidental sounds.

So, they sound brilliant, are gorgeous in their rich piano black finish and at £1,750 they're a bit of a bargain, too. Yes, Teufel's Select 2 system is £300 cheaper, but it's only available online – you can get a demo of this system before you buy.

→ Specifications

Jamo D500 LCR

Drive Units: 2 x 5.5in midbass drivers; 2 x 3in midrange drivers; 1 x 1in tweeter
Enclosure: Three-way, sealed
Frequency Response: 80Hz-20kHz
Sensitivity: 89dB (2.83V @ 1m)
Power Handling: 150W
Dimensions: 450(w) x 260(h) x 130(d)mm
Weight: 7.2Kg

Jamo D500 SUR

Drive Units: 1 x 5.5in front-firing midbass driver, 2 x 3in midrange drivers; 2 x 1in tweeters in dipolar array firing along wall boundary
Enclosure: Three-way, sealed dipole
Frequency Response: 80Hz-20kHz
Sensitivity: 84dB (2.83V @ 1m)
Power Handling: 120W
Dimensions: 450(w) x 260(h) x 130(d)mm
Weight: 7Kg

Jamo D650 subwoofer

Drive Unit: One 12in long excursion driver
Enclosure: Sealed
Frequency Response: 24Hz-200Hz
On board power: 650W BASH® amplifier (peak)
Dimensions: 400(w) x 419(h) x 418(d)mm
Weight: 22.2Kg
Connections: Stereo phono line level input and output, plus speaker level input



HCC VERDICT

Jamo D500 5.1
 £1,750 Approx

Highs: Good build quality; keen price; THX roars with definition

Lows: Rear brackets aren't a particularly smart design, but that's a minor niggle

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

Player courts the net

Martin Pipe likes Sony's first standalone networkable multimedia player



There must be plenty of readers who have spent the best part of a grand on a cutting-edge full HD TV, only to discover that its replacement model is 'network-enabled'. Increasingly popular, this feature enables you to stream video from various websites, install widgets and play video content, music or photos stored on devices connected to your home network.

The SMP-N100 is a networkable media player with the same XrossMediaBar user interface used in the brand's network-laden Bravias.

You connect the modestly-priced N100 to your home network (either by Wi-Fi or Ethernet) at one end and to your 'obsolete' TV at the other. HDMI is the preferred connection here, but component and composite are provided as alternatives. Digital audio, meanwhile, is available via HDMI and a standard optical port.

Turn on the compact and glossy black box for the first time, and a wizard guides you through the basic installation. Wireless/wired network configuration is, as with other more advanced aspects of player setup, accessed via the XMB. The non-backlit remote also has Sony's signature, but its layout could be improved.

Copy cat

Also familiar to some will be the choice of content. It's pretty much a carbon-copy of what Sony's current Smart TVs are offering. And it's here that the N100 scores over the myriad of rival networked media players. None have the brand's tried-and-tested GUI, or the variety of content (too much to list here) that it allows

Get connected:

HDMI is the best quality option for both video and audio

you to select. The N100 even supports iPlayer in HD, Demand Five (great for *Neighbours* fans) and the LOVEFILM VOD service.

Alas, there's currently no support for online photo albums such as Flickr or internet radio stations.

All of the content is organised into categories: music, video and photos. In addition to the online providers, you'll find any available servers on your network; uPnP and DLNA are supported. The variety of video codecs offered is fair, but only DivX/XviD and MPEG1/2 can be accessed via a network. The rest (see specifications, right) can only be played by shoving the relevant content onto a USB storage device and plugging that into the front-panel port provided.

The device handles the ubiquitous MP3 and uncompressed WAV, but WMA and AAC have to be fed in via USB and FLAC isn't supported at all. Photo-wise, the N100 can only handle JPEGs, which are replayed in HD and look superb on a decent screen. I was very impressed with how well iPlayer fared, too, especially in HD. No playback glitches suggests that a sensible amount of buffer memory is built into the player. Some XviD encodes did, however, suffer from the odd 'freeze' or lip-sync error that proved too large for the player's onboard correction to deal with. Overall, though, the N100 exceeds my expectations with ease.

AV/CV

Product: Streaming multimedia player with comprehensive on-line support

Positioning: Sony's first dedicated model

Peers: Eminent EM7080; Popcorn Hour A200



→ Specifications

Upscaling: yes up to 1080p

HDMI: yes 1 output

Component: yes 1 output (plus composite)

Networking support: 100Mbps Ethernet, 802.11b/g/n wi-fi

Codec/format support: DivX/HD; XviD; MPEG1/2; MPEG4 AVC; .MP4; WMV9; AVCHD; MKV/x.264; JPEG; MP3; AAC; LPCM/WAV; WMA9

Digital audio: Yes, optical output for LPCM/DD/DTS. DTS-HD/Dolby TruHD also possible via HDMI. 2-channel downmix supported.

Dimensions: 185(w) x 40(h) x 193(d)mm

Weight: 0.7kg

Features: Bravia Internet Video; USB port; analogue photo stereo audio output; PhotoTV HD (hi-def JPEGs); slideshow mode with background music from USB; Xross Media Bar; DLNA support; comprehensive noise reduction and picture-quality modes; 'cinema conversion' (deinterlacing) mode; audio DRC support; AV sync adjustment (up to 120ms) HDMI Deep Color and component/RGB support; parental controls, favourites, controllable via Android or iPhone app; firmware update via internet; handset offers basic multi-brand TV control; Bravia Sync (HDMI CEC)

HCC VERDICT

Sony SMP-N100
£120 Approx

Highs: Excellent picture and sound quality; good spread of online content

Lows: Lacks internet radio; some file types have to be ported in via USB port

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

Wacky streamer can confuse

Adrian Justins ponders the promise of a flawed fancy

Boxee Box acts as a conduit between your TV and an unrestricted universe of online entertainment including movies, TV shows, music and photos. It also lets you share your favourite content via Facebook and Twitter.

Also available as a free software download for TV-connected computers, this oddly -shaped piece of hardware is up against the significantly more affordable (£100) Apple TV, but can browse the internet and play flash video.

It comes with wireless and Ethernet networking, an SD card slot and a slick remote that looks like an oversized Apple remote with a mini QWERTY keyboard on its rear.

Highs

- Setting up is a fairly painless procedure. The interface is slick and neat-looking and I hooked up easily over wi-fi to a BT Home Hub and simultaneously enjoyed automatic



access to a Twonky server on a laptop. File compatibility is fairly universal despite one or two inexplicable playback refusals.

- The main screen has options for TV shows, movies, files and apps. There are 158 of the latter, including iPlayer, and LOVEFiLM is due to arrive soon.
- The Boxee box takes HD material in its stride, serving up excellent

Cuboid:
The Boxee Box takes full HD footage in its stride

1080p footage, and it can pass lossless audio and the likes of Dolby Digital and True HD from its optical output to your AVR.

Lows

- The app-based interface can be a bit confusing. The iPlayer app, for example, has no HD shows listed, but select an individual show from the TV Shows portal and you're offered standard-def and HD (720p) options.
- Web browsing is an inconsistent experience. Most text is too small even on a largescreen TV and navigation is no fun without a trackpad on the remote control.

HCC VERDICT

Boxee Box
£200 Approx

Overall: 1 2 3 4 5

SYNOLOGY USB STATION 2 → £85 Approx → www.synology.com

Well served for little outlay

Martin Pipe builds a media server and has change from £100

Networked-attached storage (NAS) is damn useful. In addition to providing a convenient means of backing up important data stored on your computers, today's consumer-orientated models typically incorporate a DLNA media server. As a result, they're able to stream multimedia files to any device that's capable of accepting them. Synology's stylish, white box does all that for only £85.

Highs

- Synology's Mac/PC-compatible



USB Station 2 has much the same footprint as a small margarine tub. It can be installed anywhere the necessary Ethernet feed is available (and supports Gigabit Ethernet).

- The use of USB storage devices gives you a considerable amount of flexibility. Supported file systems include NTFS, FAT32 and EXT2/3. Thanks to a comprehensive web interface, it's a doddle to create users and administer access privileges.
- The onboard DLNA media server worked well with a variety of media players, while Apple's iTunes is also supported. A potentially useful

feature is audio-format transcoding, ensuring that older players can handle music encoded in FLAC or OGG amongst others. Other features

include peer-to-peer downloading technologies such as BitTorrent.

Lows

- The USB Station 2 is not the fastest and most responsive NAS by current standards – relative to more upmarket NAS products like Synology's DS410, network file-transfer speeds were on the sluggish side – but what we have is more than suitable for the streaming of files to networked devices. HD video was streamed without interruption.
- You don't get the more advanced features such as web server compatibility with networked security cameras and remote backup.

HCC VERDICT

Synology USB Station 2
£85 Approx

Overall: 1 2 3 4 5

In Brief

HD Sleuth
£2.50 Approx,
AudioControl
This app for
iPhone and



Android is a neat HDMI troubleshooter from AV experts AudioControl. Designed primarily for system installers, it offers a simple step-by-step guide to diagnosing and resolving AV problems that may occur with HDMI – and could well be a lifesaver

1 2 3 4 5

Joining the Net set

This British-made hi-def terrestrial PVR has some cunning tricks up its sleeve – and that's just how **Martin Pipe** likes it

When PVRs crop up in conversation, brands like Humax and Grundig are frequently mentioned. But there's a new kid on the block, British company 3View, whose eponymous PVR dares to be that bit different. Indeed, to refer to this product merely as a PVR hardly does it justice.

Yes, this Linux-based device fulfils all of those functions (complete with 500GB of storage and twin DVB-T2 tuners), but it goes much further than that. The 3View HD ('3VHD') also boasts an on-board networkable media player and an integrated media server for playback of recorded programmes (and other content) on networked devices. Among these are PCs, media players and recent TVs. In time, the list should also include a lower-cost

version of the 3View sans HDD and tuners. You also get a web browser and compatibility with various 'net video services. Among the latter are Sky Player, BBC iPlayer (with HD support) and YouTube.

But that's the tip of the televisual iceberg. 3View told me exclusively that, subject to negotiations with its partners, its associate company will offer access to a host of foreign-language and specialist channels via the box on this basis – a small subscription will add the services of your choice to the EPG, where they'll nestle alongside the likes of BBC1, ITV, Sky News and so on.

The box itself is compact, thanks to its use of a 2.5in SATA HDD and external power supply. It's rather lightweight in construction terms, and only basic connections are

AV/CV

Product:
Hybrid PVR,
IPTV and media
streamer

Positioning:
The only
product in
3View's range

Peers:
Sky+ HD;
Humax
HDR-FOX T2;
Virgin Media
V+HD

provided – aerial in/out, RGB Scart, HDMI, the all-important Ethernet, coaxial digital audio and a pair of USB ports for playing/transferring content, including non-network firmware updates. In keeping with current trends, no component output is offered. Nor do you get an integral CI slot or CAM for pay-TV upgrades.

The handset has a pleasant feel, and dedicates buttons to functions like the EPG, subtitles, PVR functionality, picture zoom and so on.

That all-important red button is also present, but it doesn't access digital teletext, instead bringing up a menu of widgets that includes RSS feeds, a calculator and an onscreen instruction manual. Don't expect digital teletext to be added to this list any time soon; still, you could always use the Opera 10 web browser – the



'3' button brings up a bunch of links to websites operated by the BBC, ITV, Channel 4, Sky and five. They look good onscreen, although there's no support for the Flash that's a key ingredient of the C4 site among others. From this 3View portal, you can also visit the Bing search-engine - ideally with an external keyboard/mouse. Pages are somewhat slow to load, which makes the whole experience redolent of an older PC. 3View should hedge its bets on the less-demanding 'microsites' that are optimised for mobile browsers.

As far as regular TV is concerned, the 3VHD served me well. During setup the unit will seek out all available SD and HD channels. Unfortunately, it finds everything across the band. This means you'll also get fringe channels from transmitters outside your area (suggesting the tuner is rather sensitive). You can delete the ones you don't want - bars registering signal strength are positioned alongside each channel - but 3View has promised to modify the firmware so that it only finds and stores channels specific to your location. A credible job has been made of the 8-day EPG. It's neat, customisable and displays the current channel in a window. You can watch one channel while another is recording, or record two channels at once.

Never judge a box by its fascia:
The retro-looking 3View unit offers contemporary functionality

Originally, it was easy to transfer recordings to a networked PC courtesy of a web interface. This feature has alas since been disabled, presumably to keep the broadcasters happy. But then again, the earlier versions of the firmware that had this feature were terribly buggy. Thankfully, the 3VHD has become more stable in recent months.

Performance

A feature that's still with us is the integrated DLNA media player, compatible with all key formats and codecs, including MPEG, DivX/XviD, MP3, JPEG and mkv/x.264. Transport-stream files (complete with additional soundtracks and subtitles) can also be played. Naturally, hi-def is supported here - the 3VHD goes all the way to 1080p, and will upscale lesser formats. And performance cannot be faulted - visuals are crisp and well-rendered. iPlayer came with no glitches and a picture quality that approaches off-the-air broadcasts, including the Beeb's HD offerings.

In summary, the 3VHD is a likeable and well-featured set-top box, if a little eccentric. If you want something with more tricks than, say Humax's HDR-FOX T2, you should consider this. And, hopefully, when new functionality arrives in the future, the bugs won't return, too ●

→ Tech Labs

Power consumption: Watts



Standby: The 3View box still drains power in 'standby' mode

In use: A similar figure to rival HDD PVRs

→ Specifications

Features: 500GB hard drive; 8-day EPG; BBC iPlayer; YouTube; Sky Player; network streaming; Z-wave support; SD upscaling

Connections: HDMI; Scart; optical digital audio; Ethernet, 2 x USB

Dimensions: 335(w) x 57(h) x 183(d)mm

Weight: 1.83kg



HCC VERDICT

3View
£300 Approx

Highs: Online functionality; media player/server; strong performance

Lows: No digital teletext or integrated wi-fi; tuning needs manual intervention

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

5.1-bung jumper adds bounce

Adam Rayner reveres Scandinavian engineering and tweaks a-plenty

I was once lucky enough to go to Sweden to make a TV show about tractor pulling. Blokes go along, eat smoked eels, get drunk with true determination, then hoot and holler while mad tractors fling mud around, and some announcer shouts: 'Fuuuull Puuuull!'

And this is because the Swedes truly adore their fine engineering for its own sake, as well as what it can do, whether it's six V8 engines strapped onto one shaft for the Lego-sponsored tractor pullers, or a Volvo that just simply starts first time at 20 °C below zero!

There is a fine core of speaker excellence coming out of Sweden, too, with real knowledge in the labour pool. The XTZ brand we see here is gorgeously built, and the drivers are all by SEAS (Scandinavian Electro Acoustic Systems), a Norwegian company that's been in the driver business since 1925, so it knows a thing or two.

A relatively new company, XTZ (distributed in the UK by Audio Sanctum) has drawn expertise of all sorts from making to selling, across the whole industry. And while in Europe the company specialises in selling direct, in the UK you can get delivery-cost-only free demos in your own home to effectively offer the same service as mainland Europe, but without the delays and costs of UK shipping times from there.

Sonic smorgasbord

What XTZ has done is to take the poshest SEAS drivers, enclose them in shapely Piano Black cabinets, and then with a terribly Scandinavian relaxed attitude, engineered them to be as close as possible to having universal appeal. Not for XTZ are the

rules of placement and execution cast in stone. On the contrary, each product in this 99 series is highly adjustable, starting with the plug holes.

All speakers, for lower tones, need air space to bump against, a volume of breeze to use as 'acoustic suspension'. In fact, the 'Thiele/Small' parameter for the bounciness of a transducer cone's suspension assembly as a whole is known as the Vas – or equivalent volume of air to be as 'bouncy' as the driver. They also tend to have (like a ruler held on a desk's edge and twanged), a resonant wobbly frequency they 'like' best. Using all these parameters, a clever speaker designer can port an enclosure get a big advantage. You will have a 'tuned' frequency around which this port advantage accrues, and while the bass can be 3dB louder, at this point it'll drop away quickly below the tuned frequency.

If you seal up a bass enclosure, the bass won't be as loud, but will drop as low as the driver's wobbliness allows, often deeper by far than a ported box can reach. Deciding how and by what centre frequency to tune a bass-end enclosure can be very difficult.

But what if you had lots of different sized ports, with foam bungs you can shove up them? The it gets really clever.

This system's 99W12.16 subwoofer has two ports of different lengths. With two fat foam bungs you can stopper up both, either or neither hole, to offer up four different 'tunings', as described admirably in the well-written and only slightly Swedish/English manuals (which refers to the term 'Pondus' as a unit of weight...)



AV/CV

Product:
5.1 floorstanding
speaker system

Positioning:
Higher-end of
XTZ's range

Peers:
Dali Ikon 6;
B&W 684;
Monitor Audio
RX6



Multiple ports and bungs give
you ultimate tuning flexibility

I plugged up just one port to offer the deepest tuning and then investigated the neat 99.25 bookshelf speaker. I had three. At first I thought the centre was identical but with the badge put on sideways, but, crucially, the fabulous leaf tweeter has also been swivelled vertically, to match those on the surrounds.

Smooth:
The XTZ's curved cabinets add a bit of class to the otherwise industrial design

There are superior aluminium phase-plug-equipped 6.5in SEAS 'Excel' midbass drivers in each of the five enclosures. The surrounds offer dual binding posts, joined until you choose to bi-wire or bi-amp, while the 99.36 towers have a triple

still-joined set to offer up tri-wiring/ tri-amping for their extra, deeper bass driver (also 6.5in but without a phase plug and far wobblier). They are fashioned from classic non-pressed paper, rather than the fabulous magnesium from which the mids are fabricated.

Unbunged and set to go

There are more ports to play with here: one on the 25s and three behind the 36s. You can again choose how to tune and play to your heart's content with foam bungs. Likewise, each has two jumpers on the back (or four on the big ones) used to adjust tweeter or woofer levels. These are exactly like high-end car component systems where the passive crossovers have resistors you can place in and out of circuit. This makes complete nonsense of the +3dB setting, as these resistors can only offer variable attenuation, or different amounts of 'cut' of levels. I set all to maximum, non-resisted and chose to run the all ports unbunged.

During my audition I played some multichannel material from Linkin Park (a 5.1 DTS track on an ill-fated, but still worth snapping up DVD-A disc) and spun up *The Polar Express* on DVD. The Park damn well rocked, and when the eponymous train arrives in Zemeckis' movie, **the room was not only filled with hugeness, but also with plenty of well-placed steam train detail.** And the preceding part, with its challenging and tweaky sections (a metal hubcap in the kid's room being hit; a steaming radiator...) was just superb in so many ways, from deep, throbbing, well-held bass to tinkling, delicate, detailed highs.

For the money, this system really represents astonishing high-end value – don't let the direct sale nature put you off an audition. Yes, the styling isn't going to win any awards, but the tunability and sound quality is excellent ●

→ Specifications

XTZ 99.36 Towers (£870 per pair)

Drive Units: 1 x Neodymium-driven ribbon tweeter; 1 x 6.5in SEAS midbass driver; 1 x one 6.5in SEAS paper pulp cone bass driver

Enclosure: Two-and-a-half-way with separate enclosures for woofer and midbass

Frequency Response: LF extension not quoted but HF to 40kHz

Sensitivity: 90dB (2.83V @ 1m)

Power Handling: 550W

Dimensions: 200(w) x 1,020(h) x 320(d)mm (inc feet)

Weight: 27Kg

XTZ 99.25 L/R/C

Drive Units: 1 x Neodymium-driven ribbon tweeter; 1 x 6.5in SEAS midbass driver

Enclosure: Two-way, with port that can be sealed

Frequency Response: LF extension not quoted but HF to 40kHz

Sensitivity: 88dB (2.83V @ 1m)

Power Handling: 100W

Dimensions: 200(w) x 370(h) x 330(d)mm

Weight: 10kg

XTZ 99 W12.16 subwoofer

Drive Unit: One 12in non-pressed paper fibre cone woofer with rubber surround

Enclosure: Ported

Frequency Response: Down to at least 24Hz but will play even lower in-room

On board power: 300W RMS

Dimensions: 350(w) x 515(h) x 400(d)mm

Weight: 31Kg

Connections: Stereo phono and speaker level input on high quality WBT connectors, plus balanced three-pin XLR input



HCC VERDICT

XTZ 99.36/99.25/W12.16 5.1
Approx £2,200

Highs: Solid build quality; detailed, expansive sound; lots of adjustability

Lows: Possibly confusing for the timid technophobe; mail order

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

SOMETHING WONDERFUL
WILL BE REVEALED

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Little PJ with big ideas

This budget full HD projector has much to recommend it, says **Martin Pipe**



The W1000+ can be yours for roughly the same amount as you'd pay for a good 40in TV. And none can offer the same big-screen thrills. The machine is capable of casting a 300in image thanks to the high output of its optical engine.

The W1000+ is a single-chip DLP design with a redesigned colour wheel. This spins faster, which augurs well for minimisation of the dreaded 'rainbow effect' – while the coatings that colour its six segments have been revamped. The results of such tweekery are claimed to be an improved contrast ratio over the W1000 and colour fidelity.

The 1.2:1 zoom lens is not motorised, so you have to adjust it from the projector itself (a built-in, cross-hatch pattern is a boon here).

Inherited from the former W1000

is the comfortable backlit handset, 1080p24 compatibility and somewhat pointless 3W speaker. The superb menu system has a number of fixed presets, while another three sets of user-definable ones are also available. For these, the range of adjustable parameters is on a par with far more expensive units.

Fast spinner

The W1000+'s lamp can be switched from its 'normal' mode to 'economic'. Doing so yields a moderate reduction in brightness and fan noise, which, despite the faster-spinning colour wheel, isn't really that troublesome to begin with.

The W1000+ produces a top-notch picture for the price. It doesn't represent the last word in black-level performance but dynamic range is unexpectedly good. With *Legion* (BD), I could make out the clouds in a bright desert sky while simultaneously picking out dark features in the interior of a car. Colour is also conveyed well, and the W1000+'s resolving power is excellent. Detail is far more evident than you have any right to expect at this price level. The rainbow effect was barely evident, either. It's only some noticeable more motion judder that lets the side down. Overall, though, the W1000+ gets my vote.

AV/CV

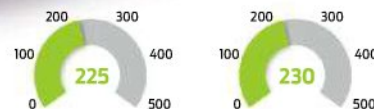
Product: Budget full HD single-chip DLP projector

Positioning: Tops BenQ's current two-strong home cinema projector range

Peers: Optoma HD20; Vivitek H1085

→ Tech Labs

Power consumption: Watts



White screen: Power consumption was right in line with projectors capable of similar brightness levels

Test footage: We measured a 5W increase while watching live footage.

TV Contrast: Ratio



Picture: We measured an average contrast ratio for this BenQ, and below the manufacturer's spec. In Dynamic mode contrast rose to 2224:1

Colour accuracy



Preset: Out of the box the W1000+ measured commendably, with the Normal preset getting closest to 6,500K. User options meant that figure was achievable with calibration
Warm: 5,840K
Normal: 6,900K
Cool: 8,000K

→ Specifications

3D ready: NO Full HD: YES 1080p24
Component video: YES one input
PC input: YES 15-pin D-Sub
HDMI: YES 2 x HDMI v1.3 12V trigger: YES 1
Resolution: 1,920 x 1,080
Contrast ratio (claimed): 3,500:1
Brightness (claimed): 2,000 Lumens
Dimensions: 325(w) x 95(h) x 254(d)mm Weight: 3.4kg
Features: Single-chip DLP design, 5,000-hour lamp life, 26dB fan noise, 1.2:1 zoom lens, 24in-300in image size, 10-bit processing, 3W speaker, backlit remote control

HCC VERDICT

BenQ W1000+
£750 Approx

Highs: Performance transcends price point expectations; neat, compact design; calibration possibilities
Lows: Motion judder; who needs a 3W speaker?

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

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Bright young thing

Kevin Gallucci auditions an affordable projector that loves living rooms



Epson is one of the leading projector manufacturers in the world today and offers a five-strong home cinema lineup. The EH-TW3600 is its newest entry-level model, and some way off the flagship RH4000 in terms of specs. For instance, the brand's Reflective LCD technology is missing here. Still, at only £1,300, this PJ will certainly attract a few buyers.

Design-wise, the TW3600 shares the same form factor as its 4400 and 5500 siblings. Connections include twin HDMI inputs, component and a 15-pin D-Sub PC jack.

Installation is made easy by an optical x2.1 zoom and manual control of horizontal and vertical lens shift. A 100in screen size is achievable from just short of 3metres.

The TW3600 claims a dynamic contrast ratio of 50,000:1, but our Tech Labs only managed to elicit 16,467:1, and 4,593:1 natively. That said, I can vouch that this Epson is capable of producing an extremely bright picture, so it's well suited to those whose viewing environment

isn't overly dark. Running noise, quoted by Epson at 22dB, was also pleasingly low and didn't prove a distraction even in quiet scenes.

Colour burst

In use, the TW3600 delivers a solid but not exceptional picture. With *Toy Story 3* (BD), colours had great richness. Oddly, you should pick the 7,500K setting to get closest to 6,500K, but it looked natural nevertheless. Detail levels were good and motion was handled smoothly, without the juddering that can blight affordable projectors.

Changing genre, I switched to the opening scene of *Buried*. The Epson's performance struggled a bit here, mainly on account of its rather average black level response. Some shadow detail was lost, as the TW3600 struggled with the low-lit confines of Ryan Reynolds' submerged coffin. Trying to improve this by taming the brightness resulted in a less punchy image.

With that in mind, it's hard to recommend the TW3600 for someone planning to build it into a dedicated cinema room (despite its provision of a 12V trigger). **It's much more suited to living rooms, and will certainly be an impressive introduction to the world of full HD projectors**, going up against models such as BenQ's W1000+ (reviewed on p68) and Vivitek's H1085. But anyone hankering for top-notch home cinema performance should wait for the company's forthcoming RH models •

→ Tech Labs

AV/CV

Product: Affordable full HD three-chip LCD projector

Positioning: Entry-level full HD model in Epson's projector stable

Peers: BenQ W1000+; Vivitek H1085

Power consumption: Watts



White screen: Power consumption with our 100IRE screen was slightly higher than BenQ's W1000+

Test footage: Energy consumption stayed the same no matter what footage we used. In Eco-Mode it dropped to 200W

TV Contrast: Ratio



Picture: A solid result for an entry-level PJ, and dynamic mode increases contrast to 16,467:1

Colour accuracy



Presets: A good range of colour temperature options, but all slightly off.
5,000K: 4,729K
6,000K: 5,466K
6,500K: 5,822K
7,000K: 6,126K
7,500K: 6,428K
8,000K: 6,752K
9,000K: 7,240K
10,000K: 7,767K

→ Specifications

3D ready: NO Full HD: YES
Component video: YES one input
PC input: YES 15-pin D-Sub
HDMI: YES 2 x HDMI v1.3 12V trigger: YES 1
Resolution: 1,920 x 1,080
Contrast ratio (claimed): 50,000:1
Brightness (claimed): 2,000 Lumens
Dimensions: 450(w) x 136(h) x 360(d)mm Weight: 7.3kg
Features: 3-chip LCD design, 4,000-hour lamp life, 22dB fan noise, x2.1 zoom lens, 30in-300in image size; normal and low lamp modes; 12 colour temperature presets

HCC VERDICT

Epson EH-TW3600
£1,300 Approx

Highs: Painless installation; bright, colourful HD images; ample connections

Lows: Average black level response; rival models are more affordable

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

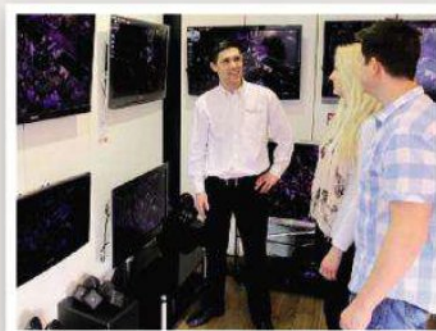
Overall: 1 2 3 4 5

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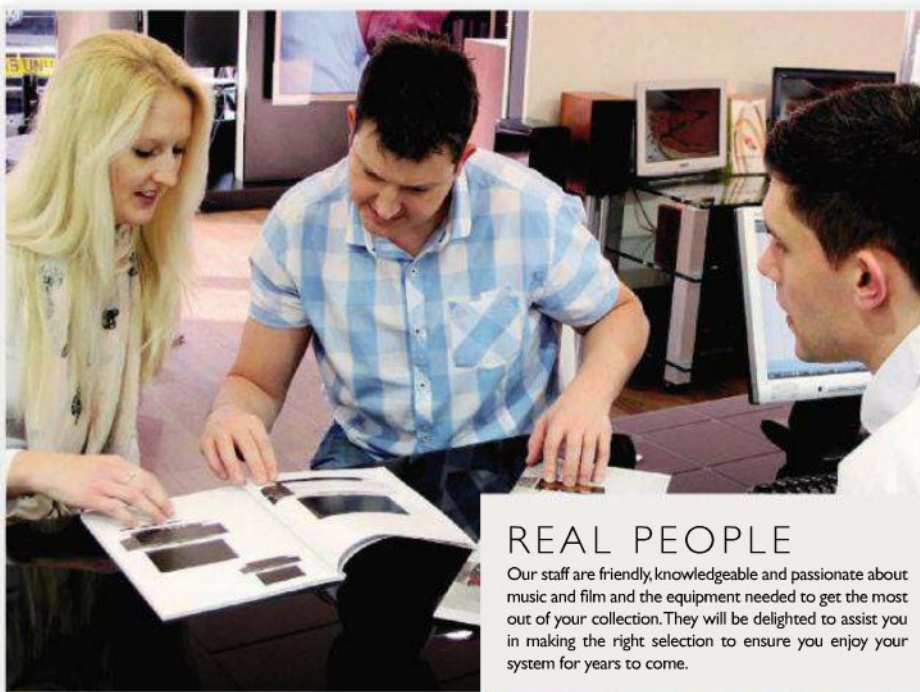


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 and slick setup
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ONEFORALL ESSENCE 4

£18 Approx
 A good entry-
 level model,
 but limited to
 just four devices

NEVO C3

£200 Approx
 Affordable
 colour screen
 model, with
 touch control for
 up to 18 devices

LOGITECH HARMONY 900

£260 Approx
 Advanced
 remote control
 boasting
 long-range RF
 technology

THE TEST

The idea of a universal remote control that will bring your TV and other home entertainment kit to life with a single, imperious press of a button has obvious appeal for any home cinema fan.

The latest models, ranging from less than £20 to north of £200, are easy to set up and now arrive pre-programmed with control codes for dozens of big electronics brands. They also provide a 'training' mode that will enable you to program the handset to work with less well-known brands.

Chunky monkey packs buttons

Flexible with bespoke macro facility, but you'll need a big coffee table...

The 2.2in screen on the eBode Take10 ensures that it looks very similar to touch-screen rivals such as the Logitech Harmony. However, the screen on the Take10 isn't touch-sensitive, and is instead flanked by two additional sets of buttons that enable you to select your on-screen menu options.

All buttoned up

That design decision helps to keep the price down to a relatively modest £50, but all those extra buttons do mean that this model is larger and chunkier than most of its rivals. In fact, once you've installed three AA batteries into it, the darn thing is hefty enough to qualify as an offensive weapon.

Nonetheless, the basic design works well. When you turn it on for the first time, the device displays a 'wizard' on its screen that helps you



to set it up to control your TV and other kit. It's pre-programmed with control codes for most well-known electronics manufacturers but, as expected, it didn't initially recognize my FetchTV box. Fortunately, as per the OneForAll SmartControl, the Take10 can cycle through its entire library of command codes until it finds one that works. So, after pressing the Power button 318 times (out of a possible 407) I found a code that worked and was able to control the FetchTV box too.

The Take10 also enables you to create a list of favourite TV channels for instant access, and to set up 'macros' that can issue multiple commands, such as turning on both your TV and Sky box and selecting a specific channel. This process is a bit long-winded, though, so another wizard that could speed things up a bit would be welcome here.

→ Specifications

No. of devices: 10
Supported devices: TV, STB (Cable/Satellite/Freeview) Blu-ray/DVD, VCR, Amp, CD
Screen: 2.2 in (not touch-sensitive)
Direct Code Input: Yes
Training Mode: Yes
Activities/Macros: Yes
Batteries: 3 x AA
Dimensions: 230(h) x 60(w) x 25(d)mm

HCC VERDICT

eBode Take10
 £50 Approx

Highs: Affordable; bright 2.2in colour screen; easy-to-use wizard
Lows: Big and heavy; tedious macros

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

LOGITECH HARMONY ONE → £160 Approx → www.logitech.com

Friendly multi-device controller

Its online database of device codes marks it out from the crowd

Prices for Logitech's Harmony controls range from £30 to almost £450, but the Harmony One is an attractive mid-range model that costs a touch over £150. It can control up to 15 different devices, which should keep even hardcore home cinema buffs happy, and is equipped with a 2.2in touchscreen, rechargeable Li-Ion battery and a rather smart charging cradle.

However, the key feature of the Harmony range is Logitech's online configuration process. Instead of pointing the unit at your TV and other devices and entering command codes to see if they work, you use the software supplied with the Harmony One to connect your PC or Mac to Logitech's online database and then download the required command codes onto the handset via USB.

To be honest, the online setup process is rather long-winded, but

once you've provided the basic details of your TV and other devices it's much easier to set up 'activities', such as 'Watch DVD', that can simultaneously turn on your TV and DVD player.

Go Fetch

The Logitech software also helped me to train the device to work with my FetchTV box in just a couple of minutes. There's one real oddity though, and that's the coloured buttons (red, green, yellow and blue) that you'd expect to find on most remote controls are completely missing from Logitech's curved handset.

It does put a set of coloured 'soft buttons' on the touch-screen display that perform the same functions, but the omission of that standard set of keys can leave the user feeling quite baffled.



→ Specifications

No. of devices: 15
Supported devices: TV, STB (Cable/Satellite/Freeview) Blu-ray/DVD, VCR, Amp, CD
Screen: 2.2in, touch-sensitive
Direct Code Input: N/A
Training Mode: Yes
Activities/Macros: Yes
Batteries: rechargeable Li-Ion (included)
Dimensions: 225(h) x 60(w) x 35(d)mm

HCC VERDICT

Logitech Harmony One
 £160 Approx

Highs: Set-up software helps to train the device and set-up 'activities'
Lows: Lacks the standard four coloured buttons

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

The long, lone IR and RF ranger

Super-sharp display screen and an IR/RF transmission to 30m

At first glance, the Harmony 900 looks almost identical to the less expensive Harmony One. Like the latter it includes a 2.2in touchscreen, rechargeable Li-Ion battery and charging cradle, and can control 15 different devices.

The price of buttons

However, a closer look reveals some important differences. The screen on the 900 seems sharper, with a more readable text display, and – far more importantly – it has the red, green, yellow and blue coloured buttons that were mysteriously missing from the Harmony One. Mind you, the Harmony 900 costs £100 more than its button-free sibling, which works out at £25 per button! Fortunately, there's one other key feature that sets the Harmony 900 apart from its stablemate and most of its other rivals, too.

The Harmony 900 includes both IR and RF transmitters, along with a set of three 'blasters' for relaying signals to your equipment. The blasters have a range of up to 30m, and don't require line-of-sight reception, so they can be used to control set-top boxes and other equipment that might be neatly stored behind the door of a storage cabinet.

In other respects the 900 is a conventional universal remote control. It uses the same configuration software as the Harmony One, so I was easily able to configure it to use all my home entertainment kit – even including the fiddly FetchTV box. Of course, most people won't care about the RF option, but the Harmony 900 may well appeal to 'neat freaks', who like to stash all their kit away in tasteful mahogany cabinets from Habitat.



→ Specifications

No. of devices: 15
Supported devices: TV, STB (Cable/Satellite/Freeview) Blu-ray/DVD, VCR, Amp, CD
Screen: 2.2in, touch-sensitive
Direct Code Input: N/A
Training Mode: Yes
Activities/Macros: Yes
Batteries: Rechargeable Li-Ion (included)
Dimensions: 225(h) x 60(w) x 35(d)mm

HCC VERDICT

Logitech Harmony 900
 £260 Approx

Highs: Attractive design; RF option with 30m range
Lows: Expensive; most people won't require the RF option

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

NEVO C3 → £200 Approx → www.armorhome.co.uk

Easy PC rider sets up in a trice

For technophobes and technophiles alike, this remote offers great flexibility

The Nevo C3 is a versatile universal remote control, equipped with a touchscreen, rechargeable battery and charging cradle, and capable of controlling up to 18 different devices. However, the manufacturers can't quite seem to decide how they want to sell it.

Install overkill

Somewhat ambivalently, while the Nevo website emphasises the need for a professional installer to come to your home and set it up for you, they also boast that it's easy for complete beginners to use.

In fact, the basic set-up procedure is extremely easy. When you turn it on for the first time, the C3's touchscreen asks what types of device you want to control, and then displays a list of well-known manufacturers that you can choose from with a simple tap of your finger.



You can also set up 'activities' that control multiple devices, and even create a list of your favourite broadcast channels.

In order to use these features you have to install Nevo's EZ-RC software on a computer that has internet access. As per Logitech's Harmony software, EZ-RC connects to an online database that you can use to configure the device.

But, unlike the Harmony software, EZ-RC wouldn't run on my Mac, so I was forced to borrow a colleague's PC laptop in order to install and configure the remote.

To be fair, I was impressed by the way the EZ-RC software was able to identify and control my FetchTV box more quickly than any of its rivals in this roundup. However, the high price and lack of Mac compatibility are weaknesses that will deter quite a few people.

→ Specifications

No. of devices: 18
Supported devices: TV, STB (Cable/Satellite/Freeview), Blu-ray/DVD, VCR, Amp, CD
Screen: 2.2in, touch-sensitive
Direct Code Input: N/A
Training Mode: Yes
Activities/Macros: Yes
Batteries: Rechargeable Li-Ion (included)
Dimensions: 225(h) x 60(w) x 20(d)mm

HCC VERDICT

Nevo C3
 £200 Approx

Highs: Touch-screen controls; easy set up and online configuration
Lows: Expensive; configuration software doesn't work with Macs

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

A 'cheap as chips' solution

Pocket-friendly and suited to users with a modest amount of AV kit

The Essence 4 is a respectable entry-level offering that's solidly built, and capable of controlling four separate devices for less than £20.

Its standout feature is its 'SimpleSet' option. Like most universal remotes, this one enables you to manually enter four-digit control codes for a range of well-known electronics manufacturers.

However, the device has also been pre-programmed with a 'SimpleSet' of codes for the top 10 manufacturers in various product categories – such as Samsung, Panasonic and Sony for TVs and Sky, Humax and Philips for set-top boxes.

Provided your TV and home cinema kit are all included on the 'SimpleSet' list, you can program the Essence 4 to control them by simply entering a single-digit number for each device.

I had no trouble using the SimpleSet feature to program the handset to work with a Samsung TV and a few other devices from similar well-known brands. However, it stumbled with my Freeview HD box from FetchTV. Its 'search' mode did allow me to find a code that provided basic controls, but I still had to use its more laborious training mode to program in one or two key commands for features such as the electronic programme guide.

Basic instinct

The Essence 4 is a good, basic universal remote control for your television and one or two other devices. However, more experienced users who like to mix and match AV equipment from a variety of different manufacturers should probably look elsewhere for something with more sophisticated features.



→ Specifications

No. of devices: 4
Supported devices: TV, STB (Cable/Satellite/Freeview), Blu-ray/DVD, Amp
Screen: N/A
Direct Code Input: Yes
Training Mode: Yes
Activities/Macros: Yes
Batteries: 4 x AAA
Dimensions: 215(h) x 50(w) x 25(d)mm

HCC VERDICT

OneForAll Essence 4
£18 Approx

Highs: Affordable; solidly built; easy to use 'SimpleSet' option
Lows: Four devices only; clumsy training mode

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

ONEFORALL SMARTCONTROL PS3 → £50 Approx → www.oneforall.co.uk

PlayStation3 gaming specialist

Simple basic setup – with iPod and PS3 control thrown into the bargain

Sold on its own, the SmartControl costs about £25 and can control up to six separate devices. However, the PS3 model that we tested includes a separate Bluetooth transmitter, which enables it to control a PS3 game console as well (it can control an Xbox 360 without the adapter). It can even control iPod docks too, which is a nice added bonus.

Like the less expensive Essence 4, the SmartControl PS3 is pre-programmed with OneForAll's 'SimpleSet' of control codes, which enables it to work with a number of popular electronics brands, so I had no trouble getting it to work with my Samsung TV, Sky HD box and a few other devices. There was no SimpleSet option for controlling my FetchTV Freeview box, but its 'search' mode did allow me to scan through available codes until I found one that



worked with the machine. However, as with the Essence 4, I still had to finish off by using the training mode to program in some last commands from the FetchTV's own handset.

Perseverance needed

However, I did struggle a bit with the set of 'SmartControl' buttons that are supposed to perform tasks such as simultaneously turning on a TV and set-top box or games console. The manual isn't particularly helpful here, and it took a bit of random button-thumping before I managed to get everything working properly.

Even so, the SmartControl's sheer versatility is rather attractive. I was dead impressed that it was able to control my Philips Fidelio iPod dock, so it's worth considering as long as you have the patience to figure out its rather complex set of buttons and controls.

→ Specifications

No. of devices: 6
Supported devices: TV, STB (Cable/Satellite/Freeview), Blu-ray/DVD, Amp, PS3, Xbox 360, iPod Docks
Screen: N/A
Direct Code Input: Yes
Training Mode: Yes
Activities/Macros: Yes
Batteries: 4 x AAA
Dimensions: 210(h) x 55(w) x 20(d) mm

HCC VERDICT

OneForAll SmartControl PS3
£50 Approx

Highs: Controls PS3 consoles and iPod docks as well as home cinema kit
Lows: Poor manual; complicated control layout; tedious training mode

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

Reach out and touch that screen

Great value handset with sophisticated functions and touchscreen

The Xsight Touch is almost identical to the Nevo C3 and uses similar online configuration software. It also comes equipped with a similar rechargeable battery and charging cradle, and can control 18 separate devices, so there's obviously a bit of outsourcing going on there.

However, this zapper is almost £70 cheaper than the C3, so it obviously scores far higher in terms of value for money (and if you want to spend a bit more cash, there's an optional RF extender available for the Xsight that costs a penny under £70).

First impression

The touch-screen controls make a good first impression. When you turn the Xsight on for the first time it displays an on-screen guide that allows you to quickly set it up for use with your TV and other devices



simply by selecting the manufacturer's name from a list.

My ever-troublesome FetchTV box wasn't included in the list of manufacturers that were pre-programmed into the Xsight Touch but, as with the Nevo C3, I was able to quickly configure it to work with the FetchTV box by using its online configuration software.

That software also allows you to set up 'activities' for controlling multiple devices simultaneously, as well as a list of favourite channels that can be instantly selected from the screen.

The one weakness of this software – as we've already noted with the Nevo rival – is that it only runs on Windows PCs, so Mac users should take a look at the Mac-compatible Logitech Harmony range instead, or a simpler remote that doesn't require any software at all.

→ Specifications

No. of devices: 18
Supported devices: TV, STB (Cable/Satellite/Freeview), Blu-ray/DVD, VCR, Amp
Screen: 2.2in, touch-sensitive
Direct Code Input: Yes
Training Mode: Yes
Activities/Macros: Yes
Batteries: Rechargeable Li-Ion (included)
Dimensions: 225(h) x 60(w) x 20(d)mm

HCC VERDICT

Xsight Touch
 £130 Approx

Highs: You can program activities and favourite channel lists

Lows: Works with PCs only; no support for Macs

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

Final standings

These seven remotes range in price, but it's not simply a case of the more expensive the better – you may find you're paying extra for features you don't need. Before shelling out for a handset, work out exactly what you want it to do.

The SmartControl PS3 is really good value for money, and allows you to control iPod docks and games consoles as well as TVs and other home entertainment devices.

However, its training mode and 'activities' features are a little cumbersome when compared to the slick setup software offered by some of its more expensive rivals.

The OneForAll Essence is ideal for those with a very modest system (perhaps in a second room), but will have little appeal to dedicated home cinema fans.

Meanwhile eBode's Take10 offers a colourscreen UI at an affordable price, but struggles to match its bigger brand rivals in usability terms.

The high-end Nevo C3 and Xsight Touch are almost identical, and their configuration software allowed them

to quickly control all my devices, including Tesco's FetchTV box. Unfortunately, the software used by both of them requires a Windows PC, which means that Mac owners such as myself simply aren't catered for.

And the winner is...

In contrast, Logitech's Harmony software runs on both Macs and PCs, and makes it easy to program more advanced activities that control multiple devices simultaneously. But most people won't need the RF features of the Harmony 900, so that leaves the Harmony One in first place. It's not perfect – putting the red, green, yellow and blue buttons on the touch-screen is a really daft decision in my opinion – but it was the Harmony One that got me and my toys up and running in the shortest amount of time ●

The future is tablet-shaped!

Even if you now have a sophisticated, customisable home system controller like a Crestron, it's probable that in the near future you'll end up using a smartphone or tablet device to control your home.

The obvious candidates, the Apple iPhone and iPad, have already sold in their millions, but competitors such as Samsung – with its Galaxy phone and tablet (pictured) – are piling into the market. More to the point, any manufacturer can use the Android operating system to create a cheap, programmable touch-controller using a smartphone or an affordable tablet, such as Binatone's HomeSurf. Add an infra-red emitter and you have a universal remote ready to go.

AV manufacturers like Pioneer and Denon have already begun offering apps to control their hardware, and it won't be long before protocols like X10 (<http://www.x10europe.com>) will be applied to all household systems such as lighting and heating. So could this

be the end of the universal remote control as we know it...? Perhaps not. But be prepared for the shape of these devices to change completely, as the next generation gets to look more like the smartphones and tablets with which they will increasingly have to compete.

Look out for HCC's roundup of home cinema apps, coming soon.



Finishing touches

Adrian Justins trawls the shelves for those must-have home cinema extras

CONRAN AUDIO SPEAKER DOCK

Approx £250

After impressing us with a range of stands for Alphason Designs, design gurus Studio Conran, lead by Sebastian Conran, was invited by Armour Home to dabble in the home entertainment market for the first time. The result is an iPod berth that aims to combine elegant design with stunning audio performance. Engineered by Q Acoustics and featuring dual 15W speakers, the dock can play music streamed from Bluetooth Stereo (A2DP) enabled devices. Unusually, the dock assembly rotates, allowing iPhones and Touches to be docked vertically or horizontally. Frequency response is quoted at 75Hz - 20KHz.

The dock's built-in Bluetooth receiver chip is compatible with apt-X, the high performance audio coding technology, which transmits CD-quality full-bandwidth stereo over Bluetooth connections.

www.conranaudio.com

HCC VERDICT

An instant design classic worthy of any entertainment setup



LINSAR TITANIUM 24LED805T

Approx £330

It's a new name to us, but British-based Linsar has already got its portable TVs into reputable outlets such as John Lewis. The Titanium range comes in HD Ready 19in, and full HD 22in and 24in sizes, and features a built-in DVD player, Freeview tuner with EPG, and HDMI and PC inputs; but the big gimmick is PPR, a live pause/recording feature using USB Flash memory or powered external hard drives of up to 500Gb capacity. MPEG 2 recordings can be played back on the TV, a laptop or another portable device. When you register your purchase of the 24LED805T you'll be sent a free 8Gb USB stick to start you off.

www.linsar.com

HCC VERDICT

A good choice for the bedroom/kitchen

PIONEER SE-NC31C HEADPHONES

Approx £120

These in-ear cans are equipped with a cleverly designed nozzle for a comfortable and secure fit, and come with three sizes of ear tips to help form a seal. The design houses 14.2mm drivers that feature a frequency response from 5-16,000 Hz. A gold-plated 3.5mm stereo mini plug and silver-plated OFC wire combine to ensure excellent electrical contact and better audio transmission.

The SE-NC31C has a 1.4m long Y-type cord, plus a clip that stops the earphones from falling out, and removes the noise that occurs when an earphone cable rubs against clothing.

www.pioneer.eu/uk

HCC VERDICT

We all deserve a little luxury from time to time



SONY MUSIC UNLIMITED POWERED BY QRIOCITY

Approx £3.99/month

Sony is expanding its SmartTV offering with a fee-based music streaming portal. Offering about 6million songs, the entry-level plan offers a personalised, ad-free radio station with unlimited forward skipping of songs, much like a paid-for version of Last.fm. Subscribers can listen to their choice of channels, which are categorised by genre, era or mood. There's no download option, as playlists and preferences are based in the cloud. Users can stream songs from their computer to compatible Sony hardware (Bravias, PS3 and Blu-ray decks). They can also sync their digital catalogue with music purchased from iTunes. A £10 upgrade enables users, as per Spotify's premium service, to listen to every song on demand, make personal playlists of favourites, and access premium Top 100 channels.

www.sony.co.uk

HCC VERDICT

Sony may have a job on its hands persuading people to pay for music on-demand

ISOL-8 SUBSTATION

Approx £1,400

You wouldn't think twice about upgrading your speaker wires or HDMI cables from the low-grade threads that come with most kit, yet few of us bother to address another potential weakness in our systems: mains supply. ISOL-8 doesn't mess around, its latest clutch of power conditioners work by suppressing both differential (noise signals on live and neutral power lines) and common mode noise, unlike most other conditioners. The science behind it would excite the Amperes and Voltas of this world and, safe to say, there's some heavy-duty stuff going in these hand-built brutes.

<http://www.isol-8.co.uk/>

HCC VERDICT

Unlikely to feature in Tesco's electrical section any time soon, or indeed ever



SANUS BFAV550

Approx £200

Furniture freak Sanus has launched a new AV stand with a touch of designer flair. The three-tier, £200 BFAV550 is part of the brand's affordable Foundations Basic Series, and is built to accommodate screens up to 56in and 57kg. It's available in 'chestnut' or 'chocolate' finishes (which sounds like light and dark brown to us), and can be partnered with Sanus' FMK056 mounting kit (£100, pictured) for those who want the the wall-mount effect but don't trust their home's masonry.

www.sanus.com/eu/en

HCC VERDICT

A simple, svelte solution to component clutter



Clips...

Small items that will make a big difference to your system

RedEye TV guide

Free



RedEye's iPad-based universal remote control will soon be able to take

advantage of a fully-integrated channel guide. The colourful and hi-res interface will include detailed information and program descriptions, with details for all broadcast, satellite/cable networks and local stations. It's expected to hit App store soon. www.thinkflood.com

One For All SV9325

Approx £40



Indoor aerials specialist One For All has launched a compact and

stylish Freeview HD indoor aerial with innovative patch technology. It features a flat design with no loop or telescopic antenna and has a USB input that allows it to run off a TV or laptop. Range is up to 15 miles from the nearest transmitter. www.oneforall.co.uk

Philips wi-fi TV Remote app

Free



Philips' decision to climb aboard the iPod bandwagon is welcome news to owners of its Net TVs.

Traditional remote controls are rubbish when it comes to navigating the internet and this app should ease the process considerably. It also makes it possible to stream pictures from an iPod, pad or phone directly on to the TV screen. www.philips.co.uk

Shark Head Life-Size Replica

£180



This replica shark's noggin is perfect for anyone planning a Jaws-themed install. Mount it on your wall and it's like you've got a Great White trying to eat

its way into your room. www.drinkstuff.com

So you think you know...

MAINS POWER

How does your mains power supply affect your home cinema? **Kevin Gallucci** explains...



ISOL-8's Nic Poulson says: Mains power contaminants and interference are everywhere

Every component in your home cinema is a delicate electrical device. Yet people are often willing to pay for a monstrous flat panel, beefy receiver or state-of-the-art 3D Blu-ray player and connect them to the mains via a cheap, multi-plug power strip. This will do the job, but may affect reliability or even performance, which is where we get to the controversial subject of mains power conditioning.

In the golden-eared world of hi-fi, mains conditioning is a topic of hot debate. Indeed, a long-running spat between specialist Russ

Andrews Accessories and the Advertising Standards Authority (ASA) has brought the arguments into sharper focus than ever before (you can read about it at www.asa.org.uk).

But are the arguments for mains power conditioning equally applicable to home cinema?

Every component in a UK home cinema is designed to use a standard mains voltage of 240V at 50Hz. The problem is that your household electricity doesn't usually reflect this ideal power supply; in most cases it is 'dirty' and prone to over- and under-voltage issues.

THREE COMMON MISTAKES IN HOME CINEMA POWER

1 Running video/audio cables next to power cords

Power cords can emit electromagnetic interference (EMI) that affects other sensitive cables. It is important to keep power cords off video/audio cables. If they must touch, then make sure they do so at an angle of 90°.

2 Implementing power conditioning incorrectly

It's crucial that AV components are plugged into a socket on a power conditioner/AC regenerator that's optimised for a specific component. You don't want to plug a receiver into the TV, for instance. You could limit the power to a specific component, or even trigger the surge protection feature.



3 Using light dimmers

Setting the mood for a movie is great, but light dimmers that limit the flow of electricity to light output introduce a lot of noise into household electrical lines. On the same electrical line as your home cinema gear, this can cause it to be underpowered.

Getting down and dirty

To fully understand what is going on, we must first look at the power foundation. Electricity is generated in a plant that's typically dozens of miles away from your home. To get to your living room it has to navigate substations, high voltage lines, transformers and, finally, the power lines that connect to your home.

Along the way, a lot could have happened to that electricity; it could have picked up radio frequency interference (RFI) or electromagnetic interference (EMI). As more wireless devices are used, we are seeing increased issues with both.

Power lines can act like aerials, picking up signals from mobile phones, radio and television broadcasts, and even wi-fi signals can have a negative effect on the quality of your power by contaminating it with noise.

But your house is the single biggest culprit of electrical contamination. Refrigerators; washer/dryers; light dimmers; hair dryers; computers and other AV components create noise by pulling power from the mains. Fridges and washer/dryers consume enormous amounts of electricity and have noisy power supplies. This noise and power consumption affects other products on the same power line.

Just about all of your AV gear is full of microprocessors and other delicate technology, and dirty electricity and over/under voltages can >



Clean-up:
ISOL-8's 1080 can take the dirt out of power supplies

put stress on these sensitive components, causing them to underperform.

Measuring the existence of mains noise and voltage fluctuation is easy; proving it has a visible or audible effect on home cinema equipment is more difficult, and this is part of the ASA's beef.

But it's incontrovertible that your home's electricity supply isn't perfect, so it's common sense to install a power conditioner.

There are two main types of power conditioner: traditional passive types and complete AC regenerators. The former are cheaper and use various types of electrical filters to tackle RFI and EMI. This can be pretty effective (see the boxout on Power Interference).

The more extreme method of cleaning your electricity is the AC regeneration route. This tends to be more costly, but is certainly the most effective (see opposite for more details).

AC REGENERATION

An AC Power Regenerator provides the cleanest power available and recent innovations mean that they can supply enough juice for a complete home cinema system. The Power Plant Premier (PPP) from PS Audio (www.psaudio.com) produces 1500W of clean power, plenty to run a small-to-mid-size home cinema. It costs around £1,500.



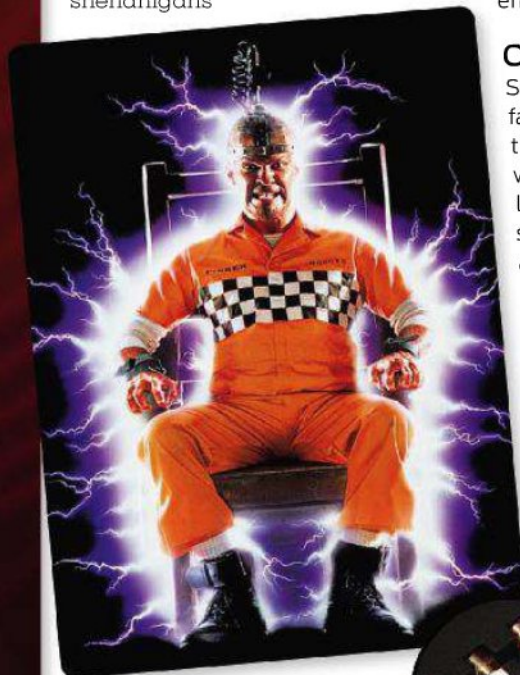
AC regeneration works by converting incoming alternating current electricity to direct current, then back to AC. This process gets rid of the original dirty, noisy AC sine wave by completely eliminating it. By converting the AC into DC, the electricity is now flowing uniformly as opposed to in a sine wave. It is then turned back into the latter with very little distortion. To create the power needed to run an entire system, regenerators use an internal amplifier.

But regenerators cannot create the same amount of power you receive from the wall socket, so a user who has a very high-powered amp may not be able to get enough power from an AC regenerator. A good option is a passive power conditioner, but for the cleanest power, nothing beats a regenerator.

may expect,' said Poulson. 'Zooming in on an AC mains cycle reveals there is a lot going on; pollution and distortion of our energy supply is an inevitable consequence of its use, and it is everywhere.'

'Electrical appliances in homes each turn some of the energy used into noise, either as radio interference or distortion of the mains itself. All are connected to, and share, the same physical conduit: the power grid.'

Shocker: Don't be like Wes Craven's eponymous villain and fall victim to electrical shenanigans



Cleanliness next to Godliness

Some cinema enthusiasts have gone as far as running dedicated lines directly from their fuse box to their home cinema gear, with no other sockets attached to the lines. This is the ideal option, which should of course only be tackled by a qualified electrician.

So a power conditioner is the practical option in most cases, and there are plenty on the market from companies such as ISOL-8, IsoTek, PS Audio, and Monster Power.

We talked to ISOL-8's Nic Poulson about the philosophy of mains power conditioning and the Powerline 1080 specifically, and asked him what mains conditioners are designed to tackle.

'Taking a closer look at a mains supply reveals it's not a simple issue, and often not what we



High-End Fuses

Could the fuses in your receiver and mains plugs be the weak link in your electrical system? Many specialists think so. A fuse will protect the system by blowing if the current is excessive, but since your mains current passes through it, it could also be the cause of EMI and RFI interference or contact resistance.

Most AV gear uses low-grade, generic, mass-produced fuses made from inexpensive metal, often tin, and housed in glass chambers. Tin is quite low on the metal conductivity scale, while silver, copper, and gold are highly conductive; and the glass body on most generic fuses can become microphonic when vibrated, adding distortion to the electricity flowing through the fuse. So are generic fuses responsible for creating distortion inside a product?

One company that deeply believes in quality fuses is AMR (Abbingdon Music Research), at www.amr-audio.co.uk. AMR calls fuses 'the weak link', and believes that generic fuses, '...will

degrade the electricity as it passes through'.

AMR has addressed the issue by creating high quality fuses using silver alloy fuse wire, gold-plated end caps, and an anti-resonance ceramic body. The AMR Gold Fuse Claims to be able to bring sharper picture definition, richer colours and blacker blacks to plasma and LCD televisions, projectors, Blu-ray and DVD players.

They're sold in presentation packs of three for £34.99, with amperage values mixed and matched to suit your equipment needs.

So can these fuses enhance the performance of your audio/visual gear? Our tests didn't show any measurable difference in picture quality, and there was some debate over whether we could perceive any audio improvements. But hi-fi forum chatter tends to agree that there can be improvements, though the fuses need time to burn in. So, as with power conditioning, we don't think it can do any harm to upgrade your fuses.

'Most AV equipment is surprisingly vulnerable to this pollution, and limitations in the component parts commonly used means the interference is passed through to the sensitive circuits beyond, compromising performance.'

'High energy spikes from switch contact arcing can cause clicks; broadband noise from rectifier diodes can create a haze veiling detail, and industrial inductive loads can cause significant local distortion of the mains waveform. These effects are often the reason why your system sounds better at night, when there is less local electrical activity.'

So, what's the solution? Poulson opines: 'Removing mains-borne noise can dramatically improve your system. **A carefully designed filter or regenerator, isolating each individual component in your system, will provide superior, more predictable performance.** The benefits are often not subtle. Other solutions such as specialist mains cables, which often provide improvements due to a limited degree of filtering, as a consequence of their physical geometry, are usually unpredictable, so tackling the source of the problem is a more powerful tool than just coping with its effects.'

The PowerLine 1080 is a 2.3kg lump featuring a powder-coated steel chassis and an anodized 6mm thick CNC'd aluminum top plate designed to be non-magnetic and non-resonant. It has an IEC input connector, but you'll have to supply your own mains lead (the ISOLink shielded mains cable for instance). Each of the four power outlets has a hinged cover designed to IEC standard IP54, protecting unused outlets from dirt, dust and little fingers. Internal wiring is silver-plated copper with PTFE insulation. One outlet has a dedicated filter to eliminate noise generated by video displays, while another has a filtered high current direct connection for amplifiers. The remaining two outlets are for source components.

It's all about the current

'It's specifically designed for plasmas, LCDs, and projectors,' explains Poulson. 'Basically, it's all about current. Displays don't need enormous amount of current; they don't normally need high peak current either. When that's the case, it allows us to put a far steeper curve in than I ordinarily would for an audio component. The PowerLine 1080's output is very different to all of the others. It can only deliver around four or five amps maximum. It really has got a very very steep curve, plus we also built in a Notch Filter, which is designed to tackle a lot of the addition noise coming out of the plasma. The notch syncs specifically to that plasma noise, it's hyper-tailored specifically for the plasma display. The other two line sockets have moderate filtering just for source components, while the one for the amplifier is only parallel filtered because we don't want to limit current.'

So how can the impact of your power conditioners be measured?

'We use three things; one we look and listen, which is one of the finest arbiters. Then we have a Voltech power analyzer (more about these at

TWO MAIN TYPES OF POWER INTERFERENCE

There are two main types of interference lurking in your power lines. The biggest culprit is Common Mode Noise, created when both the Live and Neutral lines in power wires come across a source of noise simultaneously. The noise is circulated in the current loop, but it is also circulated in the ground loop (see diagram 1). This usually occurs when Radio Frequency Interference (RFI) gets through to the power conductors.

Diagram A

The second offender is Differential Mode Noise, created when only one conductor picks up noise. It is then circulated in one portion of the current loop between a power source and component, never reaching the ground wire (See diagram 2). This form of noise is usually created when individual power wires are spaced far apart, as they commonly are in amps, source components, and TVs

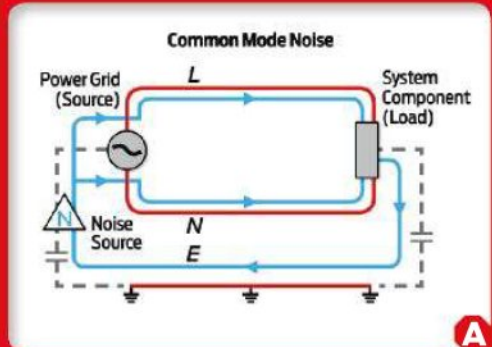


Diagram B

To tackle this, power conditioner manufacturers use various filters to clear up the noise. This works best for Common Mode Noise, but Differential Mode Noise takes a more sophisticated approach. According to Isol-8 Technologies, it can be dealt with by using, '... separate series inductors in the send (live) and return (neutral) in combination with a shunt capacitor in the current loop' Isol-8 claims to be one of the few companies that tackles both types of mains noise in their power conditioners (see diagram C of Isol-8's 'Transmodal' Filter).

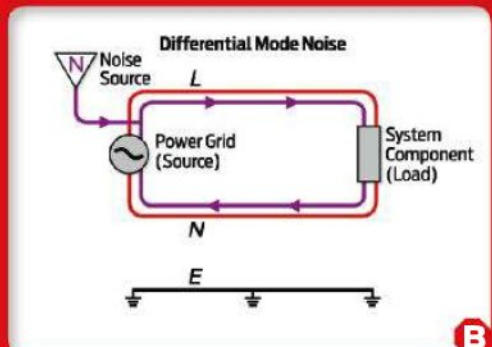
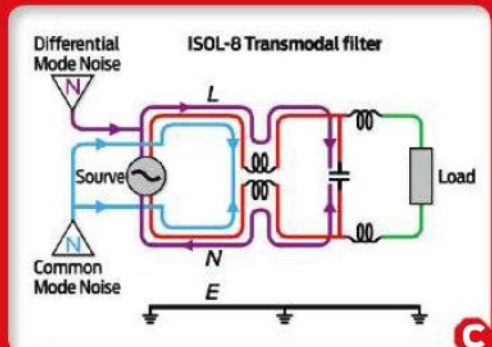


Diagram C

Remember that all of your home cinema components can pick up noise, and that noise can be distributed to other components. Power conditioners can play an important part in cleaning your mains, keeping noise contained and keeping it away from other components running on the same conditioner.



www.voltech.com), plus we use new generation Picoscope (PC-based oscilloscope, from www.picotech.com) capturing devices, so we can freeze moments in time and look at them.'

On our in-house reference system, our subjective impression was of a touch more clarity overall on our installed LED TV when we used the Powerline 1080. Display noise was reduced, and colours appeared a little more vibrant. Attached to our receiver, we heard a slight reduction in noise – a subtle effect, but sound effects appeared to emerge from a quieter background. Improvements were more pronounced at home, supporting the argument that the perceived effect of a power conditioner will be dependent on the state of your mains in the first place.

So, if you want to get the best out of your system, think of what you're putting into it – even if it adds only a level of surge protection, a power conditioner can still be a wise investment ●

WHAT satellite

The magazine for digital TV enthusiasts

& Digital TV



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PLAYBACK

→ **Software highlights** **BURIED** Micro-budget marvel has the walls closing in **RED** They may be pensioned off, but these ex-CIA agents still pack a punch **SAW: THE FINAL CHAPTER** Gore fest comes to a 3D close **BAMBI** Prepare to get teary with the HD release of Disney's classic **LET ME IN** US remake comes close second to Swedish original **AND MUCH MORE!**

Brake point

Unstoppable → 20th Century Fox → Region B/C BD

Disaster looms on the tracks if no one can stop the hurtling freight train. Check out our in-depth Blu-ray review on page 88 before it hits the buffers



HCC Ratings key

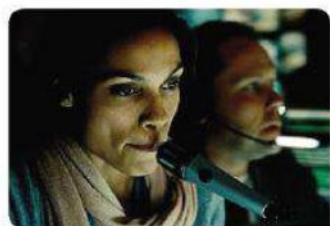
Michael Keaton	1 2 3 4 5
Michael Douglas	1 2 3 4 5
Michael Palin	1 2 3 4 5
Michael Winner	1 2 3 4 5
Michael Moore	1 2 3 4 5

STATION	STENCIL	QUALIFIED	DUE
ATION	ACAP	2008	2018
T	ACAP	2008	2018
MENT	ACAP	2008	2018
5 PSI	ACAP	2008	2018
N	ACAP	2008	2018
CTION	ACAP	2008	2018



Hazchem disaster is a belter

Runaway train drama thrills with a soundtrack that'll give your channels a workout



HCC VERDICT

20th Century Fox → Region
B/C BD/R2 DVD
£25 Approx

We say: Stunning picture and
sound make an HD superstar

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5

Unstoppable finds director Tony Scott teaming up with his regular leading man, Denzel Washington, for another bout of chaos on public transport. While still no cinematic classic, it's a vast improvement on their meandering remake of *The Taking of Pelham 1, 2, 3*, delivering undemanding action fun that partners Washington with Chris Pine in a (true) tale of a runaway freight train packed with deadly chemicals. As always, while the actors do their best with fairly limited parts, it's Scott's wild direction that ramps up the action to breaking point and delivers the film's real excitement.

Chris Jenkins on picture: You can always tell a Tony Scott movie by the visuals and *Unstoppable* is no different. The AVC 2.40:1 1080p encode is awash with blue and green colour washes, rock-solid blacks and some of the most aggressive grain structure we've seen on a modern film. So while it isn't always pretty, this disc does an excellent job of perfectly replicating the intended look of the film. It also exhibits some terrific fine detailing in amongst all of the over-stylised visual flourishes, rendering pretty much every particle perfectly visible during the explosion of seed grain in Chapter 22.

Mark Craven on audio: *Unstoppable* roars into life on Blu-ray with one of the most thrilling lossless soundtracks we've heard in a while. From the moment the train starts rolling, the mix never lets up, constantly assaulting your ears with a barrage of expertly judged and perfectly



positioned surround sound effects. Excellent sound design plays up every single creak and groan of straining metal as the train hurtles out of control, while no opportunity is missed when it comes to blowing you out of your seating with tightly controlled, yet devastatingly

delivered bass effects. No wonder it was nominated for Best Sound Editing at this year's Academy Awards.

Anton van Beek on extras: This Triple Play edition of *Unstoppable* arrives with the expected bonus DVD and Digital Copy of the film, as well as reasonably tasty collection of special features on the Blu-ray itself. Scott provides one of his typically chatty commentary tracks, packed with info about the development of the story and how he staged it all for the screen, although it's a pity that neither Washington or Pine were on hand to give an actor's point of view. Thankfully, this is addressed by *On the Rails with the Cast and Crew*, a 13min 'roundtable' chat with the director and main cast on location.

Completing the set are *The Fastest Track: Unleashing Unstoppable*, a pretty standard 30min Making of... doc; the 10min *Derailed: Anatomy of a Scene* that digs a little deeper into the creation of one of the film's set-pieces; the 14min *Hanging Off the Train: Stunt Work* takes a closer look at some of the film's stunts, the theatrical trailer and a BD-Live link. Best of all, the video extras are all presented in 1080p.

Let Me In

Universal Pictures → Region B BD
£16 Approx



Despite its assured direction and moving performances, this US-remake of Swedish vampire

drama *Let the Right One In* adds nothing to the original other than changing the location and language. So it's ultimately a futile piece, designed solely for those with a morbid fear of reading subtitles. By nature a pretty dark film, it certainly impresses on a technical front in HD, thanks to a crisply defined AVC 2.40:1 1080p encode and engagingly moody Dolby TrueHD 5.1 soundtrack. A satisfying batch of extras includes a commentary, three deleted scenes and a sporadic PIP track. **AvB**



Burke & Hare

Entertainment in Video → Region B
BD → £25 Approx



Simon Pegg and Andy Serkis headline this black comedy about the notorious real-life 19th century

grave robbers. With John Landis behind the camera and a tremendous cast of well known British comedy stars, this should have been an absolute treat. But ultimately it falls flat, never providing the big laughs it's clearly aiming for. The blue-tinted AVC 2.40:1 1080p encode is reasonably sharp, but suffers from excessive crushed blacks, and the DTS-HD MA 5.1 mix isn't exactly adventurous. An hour of interviews, ten deleted scenes and outtakes make up the extras. **MC**



Machete

Sony Pictures → Region A/B BD
£23 Approx



Robert Rodriguez' 'Mexploitation' flick is a messy mix of '80s-style action and political commentary.

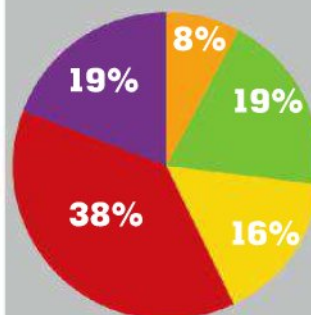
There's no shortage of blood, guts and T&A on show, but the whole thing feels like little more than an excuse for the big-name cast (including Robert De Niro, Jessica Alba, Don Johnson, Lindsey Lohan and even Steven Segal) to goof around. Once past the Grindhouse-style and artificially-aged prologue, the AVC 1.78:1 1080p encode steps up to deliver some stunning sunburnt imagery, while the DTS-HD MA 5.1 packs plenty of power. Meagre extras include three deleted scenes. **AvB**



We asked you...

How many BDs / DVDs do you own?

- Less than 10
- 10 - 50
- 50 - 100
- 100 - 500
- More than 500



Results of poll from
www.homecinemachoice.com

These aliens really suck... but good

Predictable sci-fi script provides the premise for an exercise in special effects

Skyline represents an obvious step up in quality for visual effects artists-turned-filmmakers Greg and Colin Strause. But that's because this surprisingly dull alien invasion drama simply isn't as offensive as their previous directorial outing, *Aliens Vs Predator: Requiem*, rather than being a reflection on their growing talents.

This time around they've turned their attention on an apartment full of unlikeable 20-somethings who awake one morning to discover that UFOs are ravaging the planet. What follows is essentially a 'greatest-hits of sci-fi' package that'll leave you wishing you were watching *War of the Worlds* or *Godzilla* instead.

Chris Jenkins: Skyline's AVC 2.40:1 1080p encode shows all of the usual strengths and weaknesses of movies that have been shot digitally. As you'd expect, night sequences and dimly lit interiors (which make up around half of the film) have a familiar digital feel of flat, washed-out blacks holding next-to-no shadow detail. Black levels also seem a little off register in a number of shots, giving them a slightly green tinge that isn't particularly natural or appealing. However, whenever the action moves into brighter locales, the image quality picks up considerably, with improved sharpness, greater detailing and more accurate colour reproduction.

Mark Craven: This Blu-ray release serves up an involving and sonically detailed DTS-HD Master Audio 5.1 soundtrack that makes the film feel much more epic in scope than it actually is. Dialogue, as you'd expect, is cleanly rendered and firmly pinned to the centre-channel – but it's the aural assault that accompanies the alien invaders



HCC VERDICT

Skyline → Momentum Pictures
→ All-region BD → £25 Approx

We say: An unoriginal sci-fi flick on a similarly uninspiring Blu-ray

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5

that really grabs your attention. From their room-shaking arrival in Chapter 4, to a car being stomped on by a giant extraterrestrial beastie in Chapter 8 and the US Army fighting back in Chapter 13, this reveals itself to be a surround sound mix full of booming bass and expertly judged positional effects.

Anton van Beek: This sci-fi flick doesn't exactly reach for the sky with its decidedly middle-of-the-road batch of extras. Directors Greg and Colin Strause provide an informative audio commentary, which is backed-up by a second track featuring co-writer/producer Liam O'Donnell and co-writer Joshua Cordes. In fact audio commentaries seem to be this disc's big feature, appearing on everything from VFX reels to trailers (the latter actually are pretty interesting as the filmmakers highlight the struggles and failures they had trying to keep spoilers out of them).

Once Upon a Time in America

Warner → All-region BD
£18 Approx



Sergio Leone's final directorial outing makes a welcome appearance on Blu-ray. Presented in

its restored 229min cut, the sheer size means that it's probably pushing against the very limits of what should be done with a single-disc release. As such, while the AVC 1.85:1 1080p encode is a large improvement on previous DVD versions, it looks a little inconsistent at times. Audio also gets an upgrade with a more robust sounding DTS-HD MA 5.1 mix. Sadly, there's little in the way of extras: just a commentary, 20min featurette and the trailer. **MC**

1 2 3 4 5

The Man who fell to Earth

Optimum → Region B BD
£20 Approx



After a less than impressive release on DVD, Optimum is back with a Blu-ray, and the result, while

a significant improvement, still doesn't quite reach the heights of the US disc from Criterion. The AVC 2.40:1 1080 encode offers a huge upgrade in clarity, but colours still seem a little cold and grain has been softened in the remastering process. Optimum's disc lacks Criterion's excellent commentary and galleries as well, offering instead five lengthy interviews (one audio-only), a 24min retrospective documentary and the trailer. **AvB**

1 2 3 4 5

Primal

Kaleidoscope → Region B BD
£20 Approx



Australian horror is enjoying a resurgence right now, spurred on by the international success of *Wolf Creek*.

Like that brutal 2005 shocker, Josh Reed's *Primal* strands its young cast in the Outback, but the chills this time are more supernatural in origin. It's effective stuff, but not particularly well served by this barebones hi-def release. The MPEG2 1.78:1 1080i imagery offers good colour saturation, but is prone to artefacting and some motion smearing. While the company promises that the release version will feature a DTS-HD MA 5.1 mix, our review copy only offered a limited DD2.0 soundtrack. **AvB**

1 2 3 4 5

Altitude

Anchor Bay → Region B BD
£20 Approx



Five teenage friends rent a small plane and fly off to a rock concert, only to run into trouble in the

form of unresponsive controls, mysterious storm clouds and the possibility that something is following them. Comic book pro turned film director Kaare Andrews' debut feature looks good and makes the most of its meagre budget, but ultimately feels a lot like an episode of *The Twilight Zone* complete with the stupid twist. At least it looks and sounds great in HD thanks to the handsome AVC 2.40:1 1080p encode and aggressive Dolby TrueHD 5.1 mix. Extras are few. **AvB**

1 2 3 4 5

Living up to crate expectations

Forget lift calamities and towering infernos; today's best thriller is set in a wooden box

Buried marks the arrival of an interesting new trend in cinematic thrillers that we're dubbing the 'inaction movie'. Typically, they involve a single character trapped in an isolated location in a race against time to save their lives. Here it's Ryan Reynolds playing a US trucking contractor working in post-war Iraq, who awakens at the very start of the film to find that he's been buried alive in a coffin with only a mobile phone and a cigarette lighter to hand. As for why he's there, who put him there and what he has to do to escape, we'll leave you to find out for yourselves by watching this incredibly tense, expertly staged and terrifyingly claustrophobic thriller.

Chris Jenkins: Set entirely in a coffin-sized box buried underground with only a small number of light sources, such as the flickering flame of a lighter or the display on a mobile phone, *Buried* isn't the kind of film you expect to wow you with high-definition picture thrills. However, this AVC 1.78:1 1080p encode has a lot to recommend it, most noticeably the incredibly fine detail evident in the constant close-ups of Reynolds' face. Just as impressive are the black levels, which are rock-solid throughout, and colour saturation holds up surprisingly well (thanks to some of the lighting choices taken by the filmmakers).

Mark Craven: For a film about a man in a box *Buried* delivers an astonishingly potent DTS-HD Master Audio 5.1 soundtrack. Given the limited nature of the setting, the filmmakers continually turn to audio to make you feel as if you're trapped alongside the protagonist in this small space. There's plenty of convincing ambient sounds in the surrounds as Reynolds moves around in his tiny wooden prison and some thumping bass



The estate agent had called it 'deceptively spacious'



HCC VERDICT

Buried → Icon → Region B
BD → £16 Approx

We say: A brilliantly inventive micro-budget thriller

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5

accompany an explosive raid by Allied air forces up above him in Chapter 10. Rounding things out is the sympathetic treatment of Victor Reyes' minimalist score and the crystal-clear dialogue presentation that drives the narrative forwards.

Anton van Beek: If this disc stumbles anywhere, it's in the rather small bundle of bonus features. Of key interest is *Unearthing Buried*, a 17min featurette looking at the making of the movie, which gives you a good appreciation of how it was all put together, but ends up leaving you wanting even more thanks to its brevity. Exclusive to this UK release is a 15min interview with director Rodrigo Cortés that manages to add some more background info, while also covering some of the same ground as the featurette. Finally there's the film's theatrical trailer. All three extras are at least presented in hi-def, the first two in 1080i, with the trailer in 1080p.

There were never enough comfy chairs in the care centre



Senior moments are a blast

Superannuated ex-CIA chums get back together and prove they are still dangerous

RED stars Bruce Willis, Morgan Freeman, Helen Mirren and John Malkovich as a quartet of retired CIA agents, who are forced to go on the run and fight for their lives when they're targeted for termination by the organisation they used to work for. Based on a comic book miniseries, this light-hearted action comedy coasts by on the chummy chemistry of its ageing stars, and offers pleasure in spades as Helen Mirren whips out a machine gun and start blasting away at the baddies. So, while it's far from perfect, *RED* delivers plenty of chuckles and some cracking action along the way.

Chris Jenkins: There's very little wrong with Entertainment One's treatment of *RED* on Blu-ray. With its cast of notable Hollywood 'wrinklies', the film is never short of craggy facial close-ups with which to judge the AVC 2.40:1 1080p encode, and in this regard it always takes top honours. True, colours – particularly fleshtones – can sometimes seem a little hot, but this is more likely a result of post-production colour timing than anything to do with the encode itself, and black levels are consistently impressive throughout. Add to that a pleasingly fine layer of film grain present throughout and you can understand why the picture quality gets the 'HCC Seal of Approval'.



Mark Craven: As good as *RED* looks on Blu-ray, it sounds even better. The disc's DTS-HD Master Audio 5.1 mix is reference quality stuff from the tight LFE to the aggressive use of the surrounds during shootouts. The opening scene sets the tone perfectly, with bullets ripping through the soundstage all around you, as the assassins start their home invasion. And it's not just the steering that impresses, but also the control and power inherent in each gunshot in the mix. It leaves you gagging for more, which is exactly what the film delivers over its 111min running time.

Anton van Beek: When it comes to bonus features, this Blu-ray edition of *RED* makes up in quality what it lacks in quantity. Instead of grabbing the cast and crew for the audio commentary, the movie drafts in retired CIA Field Officer, Robert Baer, to discuss the realities of leaving an organisation like the CIA, as well as how the film measures up to real world experiences. The cast and crew show up for the picture-in-picture track, which offers much more in the way of detail about the making of the film and, once again, Baer's voice (accompanied by a mysterious silhouette) is there to dispense more snippets about real-life CIA procedure. Also on offer is a trivia track and a collection of 10 deleted/extended scenes presented in 1080p. >



HCC VERDICT

RED → Entertainment
One → Region B BD
£25 Approx

We say: An unpretentious and fun action flick that'll wow you with its hi-def AV credentials

Picture: 1 2 3 4 5
Sound: 1 2 3 4 5
Extras: 1 2 3 4 5
Movie: 1 2 3 4 5

Overall: 1 2 3 4 5

Franchise bows out in style

The ultimate sequel fails to do justice to the original storyline, but wins on visuals

Saw: The Final Chapter brings the curtain down on the popular horror franchise, desperately trying to tie-up all of the loose ends from the previous six films, while providing yet more outlandish traps that end up spraying the screen with blood and gore. This time the focus is on a Jigsaw survivor, who finds himself playing the game all over again, while a witness comes forward with information that could finally bring the killer to justice.

It is, of course, completely awful. And despite an attempt at narrative circularity, it's so far removed from the low-key original and so convoluted by the countless twists and turns its predecessors delivered, that it's hard to believe that the franchise has moved this far away from what made the first *Saw* so effective.

Chris Jenkins: The latest (and last?) *Saw* movie eschews the grainy and grimy visual palette established by its predecessors for a much sharper and brighter hi-def experience. And very nice the 1.78:1 1080p imagery looks in 2D as well. However, stick the disc in a 3D Blu-ray system and suddenly a Play Movie in 3D option appears, which is when the film's imagery really comes to the fore. Depth is handled well throughout, and even the odd out-of-the-screen moments (flying intestines, pointy metal poles, etc) work better than on many other 3D discs I've seen. So, as far as live-action, full HD 3D material goes, this is one of the better Blu-rays on the market at the moment.

Mark Craven: No matter how bad the *Saw* sequels have got, they've always delivered some pretty impressive audio and this *Final Chapter* is no exception. The DTS-HD Master Audio 7.1 mix



delivers an involving sonic assault from start to finish, employing every speaker in your system to surround you with industrial noise, piercing screams and pounding music as the gory traps spring into life. Heck, there's even a big explosion that shows just how well the mix controls even the most potent bass effects. It's not subtle, but it's very, very satisfying.

Anton van Beek: The features on offer aren't hugely inspiring. Best of the bunch by far are the two audio commentaries (one with producers Oren Koules, Peter Block and Mark Burg, the other from writers Patrick Melton and Marcus Dunstan), which do a great job of discussing the production, how the films all fit together and how this story was originally planned to run across two sequels, before being condensed into this final flick.

Also included are six deleted/extended scenes, a look back at some of the franchise's most notable traps, five music videos, the theatrical trailer and BD-Live widgets.



HCC VERDICT

Saw: The Final Chapter:
Extreme Edition
Lionsgate → Region B BD
£25 Approx

We say: The disc delivers serious 3D thrills and rocking audio

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5

My Bloody Valentine 3D

Lionsgate → Region B BD
£25 Approx



This joyfully silly slasher remake gets a second lease of life thanks to this full HD 3D release. Naturally, the stereoscopic MVC 1.78:1 1080p encode completely blows away the old anaglyph 3D offering, with a crisp and detailed image that makes great play of the added screen depth, especially during the tunnel sequences that pop up during the film. On the downside, there are some obvious ghosting problems with items in the foreground. Audio is once again a DTS-HD MA 7.1 mix, while a single commentary track is the only extra. **AvB**

1 2 3 4 5

I Spit on Your Grave

Anchor Bay → Region B BD
£20 Approx



Stephen R Monroe's remake improves on the '70s Video Nasty in its accomplished cinematography, deeper characterisation, superior performances and a shift of emphasis away from the rape and onto the revenge. That said, it's still a revolting and deeply unsettling piece of cinema, even with 43secs cut out by the BBFC. Unlike the Blu-ray release of the original ('proud' winner of the Disc Fail gong in the HCC Movie Awards 2011), this disc's AVC 2.40:1 1080p encode holds up well technically, although the DTS-HD MA 5.1 mix is very front-heavy. **AvB**

1 2 3 4 5

Amer

Anchor Bay → Region B BD → £20
Approx



The spirit of the Italian giallo lives on in this experimental film. Split into three sections, each taking its stylistic cues from different filmmakers (including Dario Argento, Tinto Brass and Mario Bava), the film is more a study of sexual politics than a true narrative, but it's put together with such bravado and reverence for the films that inspired it that genre fans will lap it up. The disc features an AVC 2.35:1 1080p encode that scores highly for colour saturation, but can feel a little lacking in fine detail, plus a captivating DTS-HD MA 5.1 mix. Extras consist of four short films and two trailers. **AvB**

1 2 3 4 5

Vamp

Arrow Video → All-region BD
£23 Approx



Arrow delivers another blast from the past with a surprise Blu-ray debut for this underrated mid-'80s horror comedy about a strip club run by the undead. The film's AVC 1.78:1 1080p encode has a slightly soft appearance that seems endemic to many film stocks from this period, but it really works wonders in the saturation of the neon greens and pinks that dominate the colour palette. The LPCM 1.0 audio is perfectly acceptable, while excellent extras take the form of a commentary, interviews, Grace Jones' rehearsal footage, outtakes and the usual poster. **AvB**

1 2 3 4 5

The Kids Are All Right

Universal Pictures → All-region BD
£25 Approx



This award-nominated comedic drama arrives on Blu-ray prior to this year's Academy

Awards ceremony. Julianne Moore and Annette Bening play a hip gay couple whose life gets trickier when their teenage children decide to track down their biological father. What ensues is an achingly funny and poignant look at modern family life. The VC-1 1.85:1 1080p imagery looks extremely natural and filmic, although the DTS-HD MA 5.1 mix is naturally focussed on the dialogue. Three short featurettes and a commentary make up the extras. **MC**



retro-ACTION! 1

Network → Region B BD
£16.33 Approx (www.networkdvd.net)



The first of three web-exclusive volumes of selected episodes from ITC's classic Brit action TV series, this Blu-ray features *Randall and Hopkirk (Deceased)*, *The Persuaders*, *Department S* and *The Champions*, plus the rather pedestrian *Strange Report*. A host of familiar thespian faces enliven the groovy '70s action. Remastered from original film elements, the 1.33:1 images look crisp, clean and colourful, and the PCM sound, while mono, carries dialogue clearly and copes expansively with those great theme tunes. No extras, but let's hope this is a precursor to full series releases on BD. **CJ**



Doctor Who: Mara Tales

Zentertain → R2 DVD
£30 Approx



Live tattoos, a giant snake, Buddhist-inspired mysticism and Martin Clunes in a dress come

together in *Kinda* and its sequel *Snakedance* – two of the most challenging and satisfying stories from Peter Davidson's tenure as the Doctor. This two-disc set features the usual lavish restorations fans have come to expect, however, the production team have gone the extra mile by offering an optional CGI snake to replace the dreadful puppet from the climax of *Kinda*. Generous extras include Making of... docs and deleted scenes. **AvB**



30 Rock: Season Four

Universal Playback → R2 DVD
£25 Approx



After its star-tastic third season the hit sitcom rings the changes, setting up a number of continuing

story arcs that play out across the run of 22 episodes. But the results are every bit as side-splitting as ever, with Tina Fey's Liz Lemon re-negotiating her living situation and getting a book published, while Alec Baldwin's TV exec Jack Donaghy finds true love... with two women... at the same time. This three-disc set serves up excellent anamorphic 1.78:1 transfers accompanied by slightly flat DD5.1 audio. Extras are top-notch, too. **MC**



Forest fawn is thumping good in HD

The magical Disney classic is a visual and audio treat with plenty of extras to enjoy

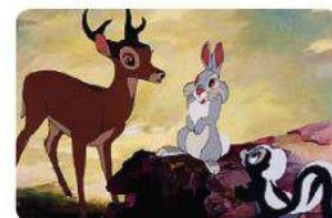
Bambi is possibly Walt Disney's crowning achievement in feature animation. Based on the popular book by Austrian author Felix Salten, this story of a young fawn and his woodland friends might boast a fairly slight 70min running time, but into that it packs some of the most beautiful, hand-drawn animation ever committed to celluloid. Its simple yet effective narrative set the template for countless animated films to follow and some heart-wrenching scenes that can still turn adults into a blubbering mess. Truly magical.

Chris Jenkins: Disney's fifth animated classic comes to Blu-ray with a gorgeous AVC 1.33:1 1080p encode that belies the film's age. While the previous Special Edition DVD, with its carefully restored imagery, set a new benchmark for this 69-year-old classic in home entertainment terms, this hi-def outing simply blows it out of the water with its crisply rendered line work on the characters and beautifully nuanced watercolour-style background art. There's no print damage on display either and, just as important, unlike the earlier *Pinocchio* Blu-ray, the visuals don't have that slightly over-processed look with tweaked colour timing. The disc also includes the usual Disney View mode, enabling you to watch the film with art (in this case, by Liz Keene) replacing the black bars at the sides of the screen.

Mark Craven: Up until now, every single Disney animated classic that has come to Blu-ray has featured a lossless audio mix – and very nice they were, too. But for *Bambi* the studio has opted only to serve up a DTS-HD High Resolution 7.1 soundtrack (and this isn't just a mastering glitch, as it's explicitly listed as such on the set-up

menu). Regardless of this disappointment, the actual quality of the mix is very good, with the film's music and dialogue rendered with astonishing clarity. It's just a shame that – by not offering a truly lossless option – it's not as good as it could have been.

Anton van Beek: The main feature on offer is *Inside Walt's Story Meetings*, an enhanced viewing mode similar to Maximum Movie Mode only with dramatic reconstructions based on production transcripts in place of the more traditional audio commentary. The mode also includes various on-screen art pop-ups (sometimes enabling them to dominate the screen and leaving the film playing in a smaller window) as well as links to 13 branching features (running the gamut from featurettes, deleted scenes and even bonus cartoons). On top of this, the Blu-ray also offers an intro by Diane Disney Miller, plus a lot more.



HCC VERDICT

Bambi: Diamond Edition → Walt Disney → All-region BD
£24 Approx

We say: A sumptuous hi-def package for an all-time animated classic

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5



THE TOP 20



“..the majority of home cinema systems selected and installed on a DIY basis (that is without professional input) are performing at way below their optimum level.”

Choosing a home cinema system is a potential minefield that must be negotiated with great care or safely avoided by letting experts guide you. If you want to end up with a system that, as a minimum, meets your expectations in terms of picture and sound quality, reading magazine product reviews and choosing the recommendations, five-star favourites or best buys can only ever be part of the answer at best. Looking for the cheapest price and having a system delivered to your door, even with a ‘knowledgeable’ friend to help set it up, is a well-trodden path to disappointment.

There is a bewildering choice of components on the market today and also different ways in which components can be installed and connected together. Which sort of visual system do you go for? Projector and screen, or plasma, LCD or LED TV? 3D or non-3D? Full 1080p capability is now the only sensible choice but the appropriate source components, such as a Blu-ray player, need to be part of the equation. The sound performance of a system is also hugely important, even more so if you will be listening to music, or music DVD’s, through

the same system. If so, you need an amp that approaches the performance of a decent 2-channel hi-fi amp, which is not that easy to find. Having an amp with the right inputs for the best connectivity is essential but you will also need to decide on a 5.1 or 7.1 speaker system, passive or active sub and, crucially, where they will be sited for the best results. In short, it’s complicated and very fertile ground for getting it wrong.

ACHIEVING POTENTIAL

To select a system, you could choose a collection of ‘Best Buy’ components in the hope that they will be a great combination. Maybe, but probably not. You could buy a pre-packaged all-in-one system from one manufacturer. This is almost certainly not the best route either as you will miss out on enormous potential. From informal surveys conducted, it appears highly likely that the majority of home cinema systems selected and installed on a DIY basis (that is without professional input) are performing at way below their optimum level. To compound matters, most are also ill-matched to the room in which they are installed and are, in reality, the wrong system. Without considerable knowledge or experience, high quality home cinema is not a suitable DIY activity.

Our aim must be to buy a home cinema system that will provide an excellent picture

quality plus an audio delivery that will match, or even better, the commercial cinema experience. It must be exciting, reliable and deliver true value for money.

WHAT AND WHERE TO BUY

To ensure a home cinema system is right for you, where do you start? Here’s an important tip ...don’t start with WHAT, start with WHERE. There’s only one way to give yourself the best chance of getting it right first time, and that’s through a specialist AV dealer. It’s possible you have preconceived ideas that put you off visiting one. Although you would welcome the advice and guidance, you don’t know the technical jargon. You don’t want to be talked down to. Your friend has said they only sell expensive gear and they’re not interested if you don’t have a big budget. They’re expensive. These are just myths.

Most specialist AV dealers are running their business because, above all, home cinema is their hobby. They spend a large portion of their time comparing systems to get the best possible results. They know the component combinations which don’t gel together and, conversely, they know the combinations which give the best performance within a given price range. Very importantly, they know how to get a system working to its optimum. But they all also know the system must suit you.

GUIDE

TO BUYING HOME CINEMA

LISTED BELOW ARE 20 OF THE BEST AV SHOPS IN THE COUNTRY.

They have been selected because they are known to do an excellent job in guiding customers towards home cinema systems that will provide years of superlative performance and total satisfaction.

BUYING OR BEING SOLD TO?

There are dealers around, web based or otherwise, who will sell you anything you are willing to pay for. They may be a bit cheaper but that's all they offer. Now there's a carefully selected group of long-established specialist dealers who are totally committed to putting the customer first. Their idea of 'selling' is to discuss your requirements, offer their advice, give you the best options, then play the systems for you and allow you to be the judge. You'll probably be surprised and, almost certainly, relieved to discover how easy it is to see and hear the differences between components and between systems. You'll be able to make a clear and informed decision about what to buy.

The story doesn't end there. These shops won't abandon you once you've put your hand in your pocket. They won't leave you to set up the system you've selected as best you can. They'll install it in your home, make sure it performs to its best, and ensure you're entirely happy with the way it works. Why? Because a high proportion of these dealers' custom comes through people who have bought from them before, either directly or by recommendation. It's vital to them to get it right for you.

GETTING THE BEST DEAL

Unless you've got money to burn, you'll be living with your new system for years. Most of these dealers offer much longer equipment guarantees than provided by the manufacturer, a very worthwhile benefit, but it also makes it in the dealer's interest to ensure high build quality and reliability. Maybe you could save a few pounds by buying piecemeal but you'll lose out on the overall package. As far as the dealers are concerned, they believe that taking care of their customers properly is a far better way of doing business than just handing over boxes.

OUR TOP 20 UK SPECIALIST AV DEALERS

SOUTH

Chelmsford RAYLEIGH HI-FI SOUND & VISION

216 Moulsham Street. 01245 265245
www.rayleighhifi.com

Colchester RAYLEIGH HI-FI SOUND & VISION

33 Sir Isaac's Walk. 01206 577682
www.rayleighhifi.com

Kingston-upon-Thames INFIDELITY

9 High Street, Hampton Wick.
020 8943 3530
www.infidelity.co.uk

Maidenhead AUDIO VENUE

36 Queen Street. 01628 633995
www.audiovenue.com

Rayleigh, Essex RAYLEIGH HI-FI SOUND & VISION

44a High Street. 01268 779762
Custom Install Dept.
01268 776932
www.rayleighhifi.com

Southend-on-Sea RAYLEIGH HI-FI SOUND & VISION

132/4 London Road. 01702 435255
www.rayleighhifi.com

Tunbridge Wells KENT HOME CINEMA

69 London Road, Southborough.
01892 535007
www.kenthomecinema.co.uk

LONDON

Ealing AUDIO VENUE

27 Bond Street. 020 8567 8703
www.audiovenue.com

N1 GRAHAMS HI-FI

190a New North Road. 020 7226 5500
www.grahams.co.uk

SW11 ORANGES & LEMONS

61-63 Webbs Road, Battersea.
020 7924 2040
www.oandlhifi.co.uk

MIDLANDS

Coventry FRANK HARVEY HI-FI EXCELLENCE

163 Spon Street. 024 7652 5200
www.frankharvey.co.uk

Nottingham CASTLE SOUND & VISION

48/50 Maid Marian Way. 0115 9584404
www.castlesoundvision.com

Solihull MUSIC MATTERS

93-95 Hobs Moat Road. 0121 742 0254
www.musicmatters.co.uk

NORTH

Chester ACOUSTICA

17 Hoole Road. 01244 344227
www.acoustica.co.uk

York SOUND ORGANISATION

2 Gillygate. 01904 627108
www.soundorg.co.uk

SCOTLAND

Aberdeen HOLBURN HI-FI

441 Holburn Street. 01224 585713/572729
www.holburnhifi.co.uk

Glasgow GLASGOW AUDIO

135 Great Western Road.
0141 332 2200/4707
www.glasgowaudio.com



BADA
BRITISH AUDIO DEALERS ASSOCIATION
the symbol of security

The majority of the above dealers are members of one or both of the major trade organisations, BADA or CEDIA.

STAR QUALITIES

VALUE FOR MONEY ★ ★ ★ ★ ★
SERVICE ★ ★ ★ ★ ★
FACILITIES ★ ★ ★ ★ ★
VERDICT ★ ★ ★ ★ ★

**TOP
20 UK**

SPECIALIST HOME
ENTERTAINMENT DEALERS

QUALITY



ASSURED
★★★★★

Feedback

Got an axe to grind? Want to comment on current technology? Need to share? **HCC** is here to help

Help me spend £1K!

Hi, I hope you can help. I am just about to re-do my lounge, which measures 15ft x 14ft, in what my wife tells me is going to be a contemporary style.

I am looking to replace my old 'telly' (nothing wrong with it) with a flatscreen, 42in-ish (I know you will tell me I should go bigger). The flatscreen will be on a cabinet in one corner of the room with seating along the two opposite walls.

My dilemma is that I want to go LED, but people tell me I should go plasma. I do not use it for gaming (I'm 55) but want it for normal use, watching sport and films, etc. I have a Virgin V+ media box and a wireless router on my computer.

I would also like to update to Blu-ray built into a home theatre system? If this could have a radio in, all the better. Speakers need to be fairly unobtrusive although the rears can be high as long as they aren't big.

I have a budget of about £1,000 for the lot!

I hope you can help with some advice, as I keep going into Currys, etc, and come out with different stories.

Dave Hall, via email

Hi Dave, glad to see you're getting into home cinema technology. We're happy to give you advice – but your £1,000 budget and wishlist might not match up.

Choosing the right TV for you is made slightly easier once you've split your budget. We'd recommend allocating at least £300 for a Blu-ray 5.1 home theatre system – models to consider include Samsung's HT-C5500 and Sony's BDV-E370. Neither come with tallboy speakers (or wireless rears) but are unobtrusive and



Panasonic's G20 plasma

Star Letter

Well, it made us laugh...

I hope I'm not too late to add my own prognostications for 2011 (re: *Point of View*, HCC#191)...

Richard Stevenson decides to stop yammering (Yet Another Mid-Range Review) and dedicates himself to introducing phantom rear speakers to his 13.4 system. He claims the clarity of the resulting soundstage is a triumph, but isn't allowed to publish when no one else can hear the voices in his head.

Martin Pipe is kidnapped by Somali pirates, but released in under 48 hours. The Foreign Office insist that no ransom was paid.

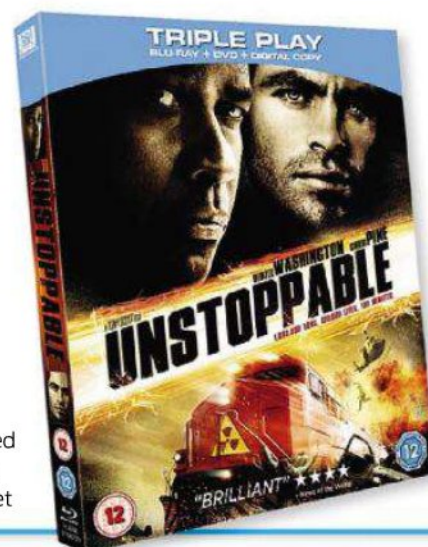
Still licking its wounds from HD DVD, Toshiba announces it has developed a hybrid screen

technology called Placid, which combines the best of Plasma and LCD. Unfortunately, there are no format battles left to fight, so forum fundamentalists get bored and decide to ignore it completely.

In an attempt to stimulate sales, industry pundits decide that the average home cinema setup does not have enough video processing power. With scalars/deinterlacers already in every player, receiver, television and projector; a Profile 1 specification is developed for improving resolution congruency by adding yet

another scaler to your mains power supply.

And lastly, Adam Rayner is invited to receive the Nobel prize for physics. With



Sign up to HCC online!

Don't be an Alan Smithee! Joining *Home Cinema Choice's* online community is free, fast and fun

On the home page of www.homecinemachoice.com, scroll down the right-hand side of the page until you see the Login box. Click the *Join Here* button, choose a username and then create your profile. You can upload an image to represent you online and use your signature to tell fellow AV fans about your own system automatically every time you post. Joining the big AV debate online has never been easier!



offer solid features – including radio (although your Virgin box has that anyway, don't forget).

This leaves around £700 for a TV. First you'll want a full HD model to match your Blu-ray system, which narrows the field a bit – especially with plasma TVs. It's really only Panasonic that offers 42in 1080p plasmas in this price range. Get yourself a demo of its TX-P42G20 – although whether it has 'contemporary style' is open to debate.

People are probably telling you to 'go plasma' because of its typically better black levels and more 'filmic' presentation. Yet LCD sets have other benefits – the brighter nature of their displays may suit your viewing room better, they're

more energy efficient, and there's more brands to choose from. You mention LED in your letter, but there aren't many LED-lit 40/42in TVs selling for £700, so you may have to consider traditional CCFL LCD screens. Here, Samsung's LE40C750 is worth a look, being stylish, good with HD and SD, and the only screen you'll find that features 3D playback in your price range, so you can futureproof yourself, too.

Hunting for hi-res audio

I am a big fan of DVD-Audio and Super Audio CD and I'm wondering if there is a Blu-ray audio in the pipeline that's backwards compatible with DVD-A and SACD. If not, what about legal downloads of high-resolution music via iTunes, Amazon etc?

David, via email

Hi David, thanks for the letter. You're probably aware that companies such as 2L (www.2l.no) HDTracks (www.hdtracks.com) and Sonos (www.sonos.com) are pioneering hi-res music downloads. Unfortunately, this is almost exclusively classical music, and there doesn't seem to be much enthusiasm for anything else at the moment. Sites such as Amazon do offer their version of high-resolution audio, but this is 320kbps, so not really regarded as audiophile standard.

As for hi-res music on Blu-ray, it seems that only 2L is interested, and we certainly haven't heard anything about a version which is backwards compatible with SACD or DVD-A. I think the only real

hope is that hi-res audio downloading will catch on more widely. It's quite likely to do so once broadband speeds increase, and people get more used to the idea of downloading all their entertainment material.

Sorry, TiVo fans

It is a shame for existing TiVo users that it's pulling its UK support. The only solution, I suppose, is some sort of web-based mode for an EPG.

Virgin made a good move, though, to get together with TiVo. If they'd done a combined box earlier they could have got a headstart on Sky+. I'll be sticking with V+, however, as it works great and I don't need any social features.

Anon, via website

We certainly feel sorry that TiVo's loyal UK community is facing the end of the road – particularly those who bought a 'lifetime' sub. And, judging from the TiVo-hedz we've spoken to, none of them are keen on the idea of signing up with Virgin Media to get their beloved 'Thumbs Up/Down' buttons back.

Adding more channels

I have a pretty standard home cinema setup – 46in TV, AVR, Blu-ray player and 5.1 system. However, as my Onkyo amp is capable of doing 7.1 channels, and it seems there are more discs coming out with 7.1 mixes on, I want to know if it's really worth adding two more speakers?

Jim, via email

Is it worth it? Yes definitely, provided cost and space aren't of a concern. Unfortunately, they often are.

First you're going to have to spend money on two more speakers. You don't mention what brand speakers you already own, but you should make sure the extra two rearback speakers are from the same range as the surrounds – you want soundfield to share the same tone and feel, after all – and this could cost a bit if you have a high-end setup.

Secondly, do you have room? Lots of us have our

sofa/chairs against the rear wall, which isn't going to suit a 7.1 array.

But if you can make the space and find the money, we'd say do it. Good 7.1 mixes (such as the DTS-HD MA mix on *Toy Story 3*) can really add an enveloping, exciting element to your home setup, and with Dolby Surround 7.1 featuring on more movies in cinemas, there are more 7.1 platters on the way.

Nothing matches my Pioneer's build quality

I'm having to put in an insurance claim to replace an eight-year-old Pioneer 50in plasma TV which, when I bought it, cost around £10,000, and was pretty much state-of-the-art. I realise that Pioneer has pulled out of the plasma market, but my insurance company is trying to fob me off with a Panasonic that costs around £1,500. It's nothing like the build quality of the Pioneer, which had a solid steel case, not the sort of plastic effort you find on today's TVs! What would be the modern equivalent of the Pioneer? Is there anything with comparable build quality?

Marcello, via e-mail

Insurance companies are a bit like that – they want to replace things like-for-like, and aren't terribly moved by arguments that you paid £10,000 for something which now costs around a fifth of that. In a sense, you ought to be glad that plasma screens are more affordable than they were eight years ago; but it is galling that you won't get something of the build quality of the Pioneer for this sort of money. A modern equivalent? Maybe Samsung's 9000 series, with its beautiful solid steel back, or something lifestyle-y such as the Loewe Individual. LCD sets both, but there really isn't a modern plasma equivalent to the Pioneers.

subwoofers in every corner of his living room, he successfully creates a standing wave singularity in his sofa, thereby proving the existence of the elusive bass quark...

Ion, via email

The Martin Pipe prediction alone is worthy of our Star Letter prize. Do you actually know him, then?

Winner: Star Letter writer Ion wins a copy of *Unstoppable: Triple Play Edition* on Blu-ray courtesy of Twentieth Century Fox Home Entertainment. It's available from 14 Feb, priced at £25 approx.

Write to Letters, Home Cinema Choice, Future Publishing, 2 Balcombe Street, London NW1 6NW, or email us at hcc@futurenet.co.uk. Due to the volume of letters we receive we cannot guarantee to print/answer them all.

How we test

Home Cinema Choice's hardware reviews combine the subjective opinion of our seasoned reviewers with hard technical data.

Chris Jenkins explains how the HCC Tech Labs work

HCC hardware reviews combine the opinions of our experienced reviewers with objective technical data from our test lab. Here's how we do it...

HCC's gear reviews have a long tradition of combining the subjective opinions of experienced reviewers with hard scientific data from our test labs. That way, you can be sure that there's no danger of favouritism or prejudice creeping into the reviews – when we combine the reviewer's opinions with the test data, we can be sure that the results we present to you, the readers, are honest, reliable and accurate.

For over 20 years, we have been developing testing methods for every AV technology from CRT TV and VCRs to the latest 3D flatscreens, multichannel amplifiers and media players. Our testers have been trained by the ISF, Tektronix, Home Acoustic Alliance and other industry bodies, and we use industry-standard testing equipment so we can be confident our results make sense in terms of manufacturers' claims.

Our Tech Labs set-up consists of two main facilities.

The Viewing Room

Used mainly for testing TVs, projectors and speakers, the Viewing Room is designed to reproduce the conditions found in a typical mid-range home cinema installation. Created by award-winning custom installers Pounds (www.poundstv.co.uk), it's completely light-proofed for testing of TVs and projectors, is partially soundproofed using Acoustiblok (www.acoustiblok.com), and has been acoustically treated and tuned using custom absorbers and diffusers by the experts at RPG (www.rpg-europe.co.uk).

The room has a resident Crystal Acoustics TX-T2 7.2 speaker system and a Screen Research 100in projection

screen. TVs, projectors and amplifiers are moved in as needed for testing. We use a TV stand from Gecko (www.gecko-furniture.co.uk) for mounting flatscreens. A Philips 46PFL9705H TV is used for 3D movie and games playback. The room is fully cabled with speaker, HDMI, and interconnects from Peerless. Multiple displays can be fed from the same source using a Gefen 2-in-4-out HDMI switcher/splitter, and the room is also equipped with network connections.

The testing equipment used for TVs and projectors is the Chroma5Pro meter and ChromaPure Pro software supplied by Kalibrate Ltd (www.kalibrate.co.uk).

This sophisticated tristimulus colorimeter and analysis software allows us to measure functions such as contrast ratio, colour temperature and luminance, all essentials in picture performance.

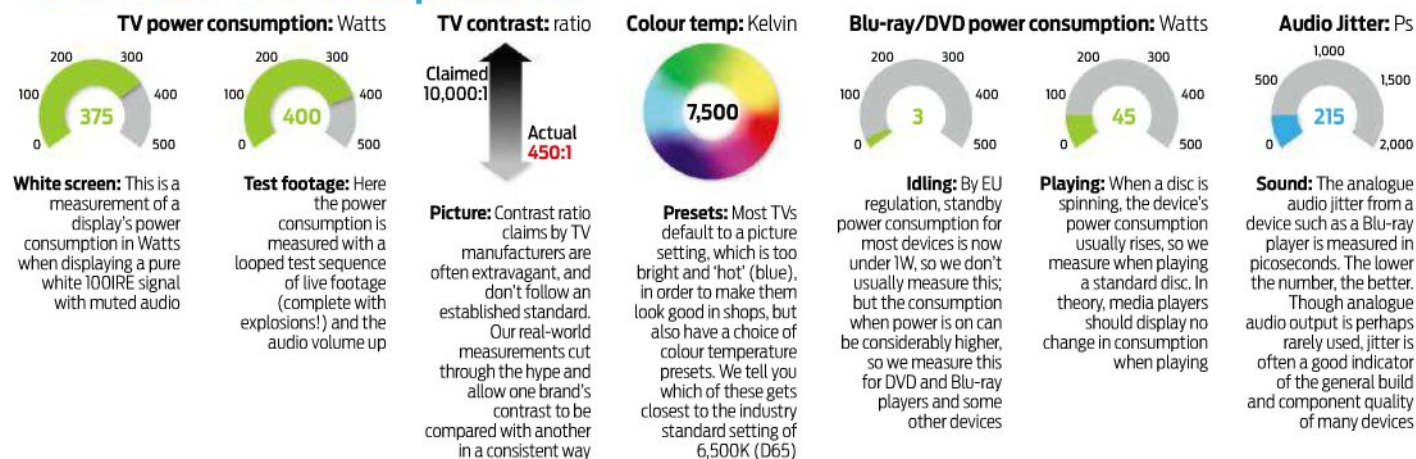
The Test Lab

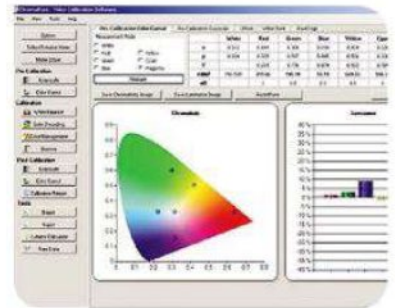
Mainly used for performance analysis of amplifiers and players, the Test Lab is equipped with an Audio Precision APX585 multichannel analyser. This generates programmable test signals, and runs a huge range of tests of functions such as output power, frequency response and distortion. It also has digital audio test functions. A Tektronix VM700 is used for analysis of analogue video signals.

Cables for the test system are again from Peerless.

In addition to the main test units, we use a number of audio and video signal generators from Sencore and Snell & Wilcox, analogue test equipment such as an oscilloscope, mains power meters from Maplin, a library of test and measurement DVDs and Blu-rays (plus all the newest software releases), and standardised digital files for media players.

Tech Lab tests explained





Test bench: The Viewing Room (above) simulates a typical home cinema, while the MSI laptop runs test software for the APX585 analyser (right) and ChromaPure system (above right)



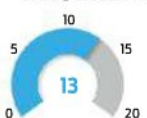
For testing of media software and portable testing applications, we use an MSI GT640 laptop PC with HDMI output and SRS sound.

Results

All this testing generates a huge amount of data, which is fed into product reviews and stored on our database. From this we can establish performance averages which

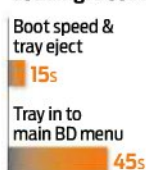
help us to keep our scoring realistic. Of course, this mass of information is too unwieldy and detailed to publish in the magazine unedited, so our next job is to present it in a way which is meaningful and easy to understand. Our graphical presentations (see below) should make it all more digestible. So, while one key reviewer is normally by-lined for our tests, the whole team will have been involved in bringing you results you can rely on ●

Video Jitter: Ns



Vision: Again, the analogue video jitter of a DVD or BD player may be less relevant when the digital output is normally used, but it is a good indicator of general build and component quality. We also measure other video quality indicators such as chroma crosstalk and frequency response at 5.8MHz

Loading: Boot/Java



Disc loading & Java: Blu-ray disc players can be annoyingly slow to load and play discs, thanks mainly to the DRM and Java content. We measure times from power on to tray opening, and tray in to boot menu on a standard BD disc

AVR power: Watts



Powered: Power consumption of an AV amp can be high, but it's a requirement of decent output levels. We measure consumption in two states, when idle, and when loaded with a multichannel surround system

Amp output power: Watts (8Ω, 0.5% THD)

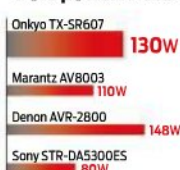


2-channel 8Ω: Manufacturers' claims for amplifier output power can be wildly exaggerated, and testing standards vary widely. Our tests deliver a figure for stereo performance with an 8Ω load, and quote a Total Harmonic Distortion result



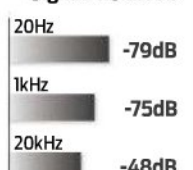
5-channel 8Ω: In most cases, multichannel performance will not match up to the two-channel figure. We push the products to its limit in multi-channel mode and quote the figure reached before unacceptable distortion results

Pure power: Watts

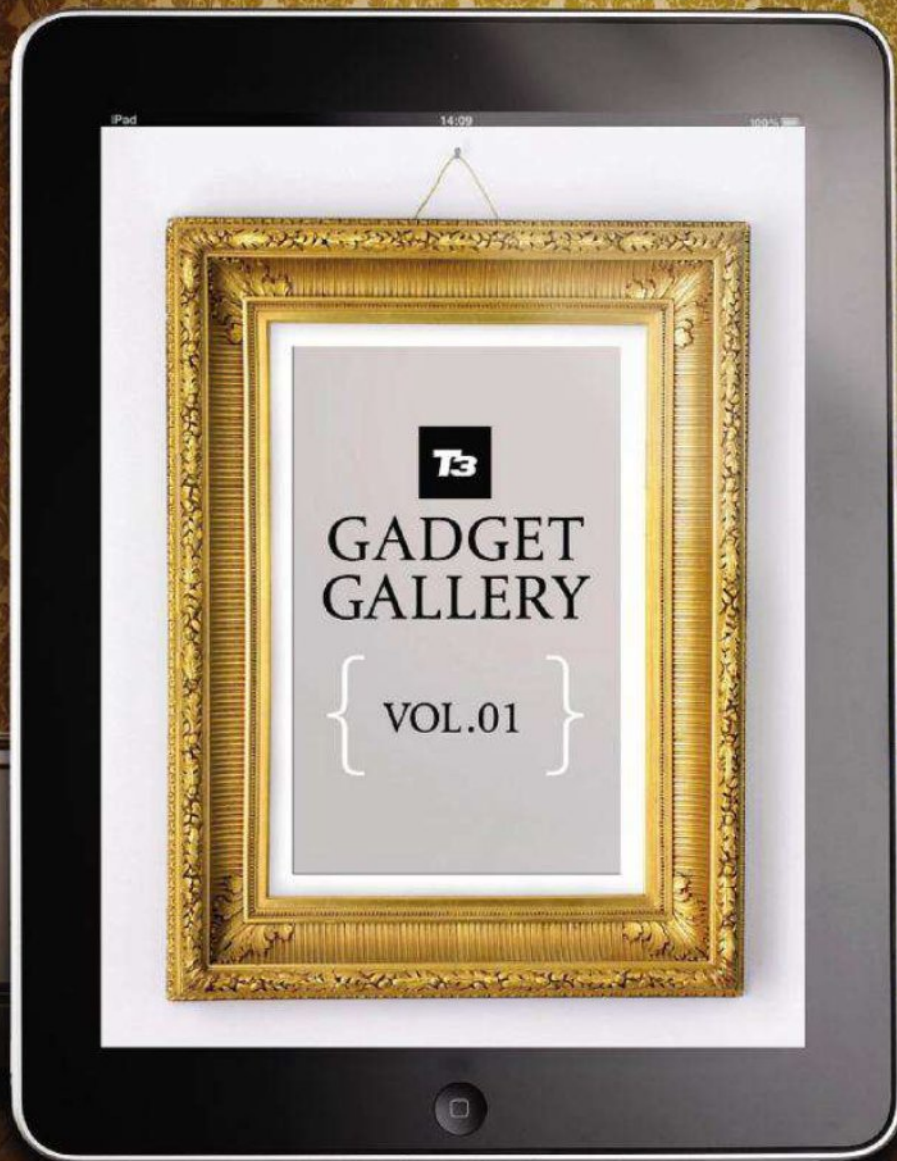


Fidelity firewall: This is our way of measuring an amp's output power ability before it is tainted by distortion. We measure at 1kHz with an 8Ω load to get an indication both of output power and component quality

Signal/noise: dB



S/N tests: These amp measurements reveal the ratio of signal to noise at a specific frequency. Low, mid and high readings are taken to determine the imaging and sonic character of the amp



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SELECT

→ **Buying Guide** **BEST EVER LCD TV** The top performing LCD screens in the UK
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TOP
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All killer
no
filler

HCC Ratings key

Officially awesome	1 2 3 4 5
Essential purchase	1 2 3 4 5
Does the job	1 2 3 4 5
Disappointing	1 2 3 4 5
Don't touch it	1 2 3 4 5

LCD TV

Best on test...



PHILIPS
46in → 46PFL9705H
£2,500 Approx

1 2 3 4 5

Philips' debut 3DTV is worthy of its £2,500 ticket

Highs: Excellent 3D and 2D images; solid audio; interactive functions

Lows: No Freeview HD tuner

→ Specifications

HD Ready: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (2 RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Yes, Freeview

Tested: Issue 189
For more info visit:
www.philips.co.uk



SONY
60in → KDL-60LX903
£3,500 Approx

1 2 3 4 5

Flagship 3D set from Sony is a real bigscreen beauty

Highs: Integrated 3D; intuitive GUI; cinematic HD pictures

Lows: Weak audio; 2D-3D quality is source-dependent

→ Specifications

Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Yes, Freeview HD

Tested: Issue 186
For more info visit:
www.sony.co.uk



PHILIPS
58in → 58PFL9955H
£4,000 Approx

1 2 3 4 5

The CinemaScope TV returns with 3D and LED backlighting

Highs: Ultra-wide form; 'net connectivity; picture performance

Lows: No HD tuner

→ Specifications

Full HD: Yes (to 1080p)
2,560 x 1,080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (1 RGB)
No. of component inputs: 1
PC input: Via HDMI only
Digital tuner: Yes, Freeview

Tested: Issue 190
For more info visit:
www.philips.co.uk



LG
47in → 47LE8900
£2,100 Approx

1 2 3 4 5

Full LED-backlit LCD with LG's NetCast feature and THX cred

Highs: Smart fascia and interface; good colours and contrast; great calibration tools

Lows: Limited web content

→ Specifications

Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Yes, Freeview HD

Tested: Issue 184
For more info visit:
www.lge.com/uk



SHARP
46in → LC-46LE821E
£2,000 Approx

1 2 3 4 5

Quad Pixel edge-lit LED TV with innovative in-built Flash PVR

Highs: Amazing levels of fine detail; great colour fidelity; useful Time Shift function

Lows: No video streaming

→ Specifications

Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Yes, Freeview HD

Tested: Issue 182
For more info visit:
www.sharp.co.uk

Also recommended...



TOSHIBA
55in → 55WL768
£1,800 Approx

1 2 3 4 5

Designer 55in 3D screen from Toshiba is worth a look

Highs: HD images; Resolution+ upscaling; full-bodied audio; Jacob Jensen styling

Lows: Crosstalk with 3D

→ Specifications

Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 2
PC input: 1
Digital tuner: Freeview HD

Tested: Issue 191
For more info visit:
www.toshiba.co.uk



SAMSUNG
46in → LE46C750
£1,500 Approx

1 2 3 4 5

3D for all. Affordable active shutter set with CCFL backlight

Highs: Good 2D performance and effective 2D-3D conversion

Lows: Crosstalk problems and narrow viewing angle

→ Specifications

Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (1 RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Freeview HD

Tested: Issue 187
For more info visit:
www.samsung.co.uk



SONY
32in → NX503
£650 Approx

1 2 3 4 5

32in net TV set perfect for second-room use

Highs: Online talents; neat design; excellent contrast and HD detailing

Lows: Traces of motion blur

→ Specifications

Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (2 RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Freeview HD

Tested: Issue 188
For more info visit:
www.sony.co.uk

Editor's Choice...

SAMSUNG
55in → UE55C9000
£7,000 Approx

1 2 3 4 5

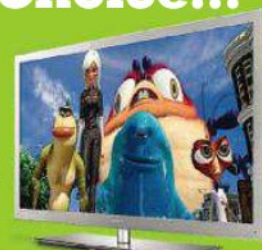
The 55in Series 9 stands as the crowning glory of Samsung's TV design and technology divisions.

It's an extraordinary product, which warrants its lofty position in the range, and is a great example of just how accomplished an LCD can be – none of Samsung's rivals have a comparable 'statement' product. As a feature-packed set that offers such goodies as 3D, 2D-3D conversion, Internet@TV and media streaming, it represents the leading edge in functionality and the picture quality is exquisite. Once you've seen one in action, you'll want one.

Tested: Issue 185
For more info visit: www.samsung.co.uk

→ Specifications

Full HD: Yes (to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Yes, Freeview HD



Plasma TV

Best on test...



LG
50in → 50PX990
£1,600 Approx

1 2 3 4 5

THX 3D certified plasma with designer looks

Highs: Beautifully built; relatively little crosstalk with 3D;
Lows: Image retention issues; black levels could be better

→ Specifications

Full HD: Yes (up to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (RGB)
No. of component inputs: 1
PC input: Yes
Digital tuner: Yes, Freeview HD

Tested: Issue 192
For more info visit:
www.lge.com/uk



PANASONIC
65in → TX-P65VT20
£4,500 Approx

1 2 3 4 5

The biggest 3D TV currently available is worth the high ticket

Highs: High-impact bigscreen pictures; minimal crosstalk with 3D images
Lows: Sucks electricity

→ Specifications

Full HD: Yes (up to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (RGB)
No. of component inputs: 1
PC input: Yes
Digital tuner: Yes, Freeview HD and Freesat HD

Tested: Issue 186
For more info visit:
www.panasonic.co.uk



PANASONIC
46in → TX-P46Z1
£4,300 Approx

1 2 3 4 5

THX-certified, ultra thin PDP with wireless transmission

Highs: Stunning HD and SD pictures; gorgeous design; good features set
Lows: Premium price point

→ Specifications

Full HD: Yes (up to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (RGB)
No. of component inputs: 1
PC input: Yes
Digital tuner: Yes and Freesat HD

Tested: Issue 172
For more info visit:
www.panasonic.co.uk



PANASONIC
50in → TX-P50G20
£1,500 Approx

1 2 3 4 5

Freeview HD and Freesat HD plasma is the FTA king

Highs: Performance; price; Freesat/Freeview HD tuners;
Lows: USB recording mode comes with strings attached

→ Specifications

Full HD: Yes (up to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (RGB)
No. of component inputs: 1
PC input: Yes
Digital tuner: Yes, Freeview HD and Freesat HD

Tested: Issue 182
For more info visit:
www.pioneer.co.uk



SAMSUNG
50in → PS50C6900
£1,300 Approx

1 2 3 4 5

Excellent 50in 3D plasma from the Korean AV kings

Highs: Picture performance calibration tools; media functionality; value for money
Lows: Screen is quite reflective

→ Specifications

Full HD: Yes
1920 x 1080 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 1 (1 RGB)
No. of component inputs: 1
PC input: 1
Digital tuner: Yes, Freeview HD

Tested: Issue 191
For more info visit:
www.samsung.co.uk

Also recommended...



LG
32in → 32PG6000
£500 Approx

1 2 3 4 5

World's smallest 32in plasma challenges LCD rivals

Highs: Smooth movement; good blacks and connectivity
Lows: Lack of detail; some jagged edges; average audio

→ Specifications

Full HD: No
1024 x 720 resolution
No. of HDMI inputs: 4
No. of Scart inputs: 2 (1 RGB)
No. of component inputs: 1
PC input: Yes
Digital tuner: Yes

Tested: Issue 162
For more info visit:
www.lge.com/uk



PANASONIC
42in → TX-P42G15
£850 Approx

1 2 3 4 5

Freesat HD NeoPDP at an enticing price

Highs: Wide viewing angle; excellent HD pics
Lows: Lacks brightness; three HDMI only

→ Specifications

Full HD: Yes
1920 x 1080 resolution
No. of HDMI inputs: 3
No. of Scart inputs: 2 (2 RGB)
No. of component inputs: 1
PC input: Yes
Digital tuner: Yes and Freesat HD

Tested: Issue 180
For more info visit:
www.panasonic.co.uk



SAMSUNG
50in → PS50A556
£1,000 Approx

1 2 3 4 5

Bargain-priced monster screen with a few caveats

Highs: Superb specification; great build quality; sharp detail
Lows: Some motion artefacts and noise visible

→ Specifications

Full HD: Yes (up to 1080p)
1920 x 1080 resolution
No. of HDMI inputs: 3
No. of Scart inputs: 2 (1 RGB)
No. of component inputs: 1
PC input: Yes
Digital tuner: Yes

Tested: Issue 161
For more info visit:
www.samsung.co.uk

Editor's Choice...

PANASONIC
50in → TX-P50VT20
£2,000 Approx

1 2 3 4 5

The arrival of Panasonic's first 3DTV was always going to get the AV juices running, and this 50in plasma doesn't disappoint. 3D Blu-ray material comes over sharp, smooth and crosstalk-free, while Sky's half-resolution 3D preview channel is revelatory, with sports coverage in particular showing excellent depth and detail. Other highlights of this surprisingly affordable 3D set include the two pairs of supplied eyewear, class-leading 2D hi-def picture performance, and savvy networking skills.

Tested: Issue 183
For more info visit: www.panasonic.co.uk

→ Specifications

Full HD: yes (up to 1080p)
Native resolution: 1,920 x 1,080
No. of HDMI inputs: 4
No. of Scart inputs: 2 (RGB)
No. of component inputs: 1
PC input: Yes
Digital tuner: Freeview HD and Freesat HD



Blu-ray players

Best on test...



DENON
Blu-ray → DVD-A1UD
£4,500 Approx



Reference universal Blu-ray player that sets new standards

Highs: Stunning lifelike picture; genuine hi-fi sound; awesome DVD upscaling

Lows: Complex to set up; not for those on a budget!

→ Specifications

Blu-ray profile: 2.0
DVD upscaling: Up to 1080p
Multichannel phono out: Yes (7.1)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: Yes/Yes
Networkability: Ethernet

Tested: Issue 178
For more info visit:
www.denon.co.uk



SAMSUNG
Blu-ray → BD-C6900
£350 Approx



Early adopters will love this 3D Blu-ray player

Highs: 3D compatibility; video quality; USB file support

Lows: v1.4 HDMI output means hookup to older AVRs will be via 7.1 outputs

→ Specifications

Blu-ray profile: 2.0
DVD upscaling: Up to 1080p
Multichannel phono out: Yes (7.1)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: No/No
Networkability: Ethernet; wi-fi; USB

Tested: Issue 181
For more info visit:
www.samsung.co.uk



SONY
Blu-ray → BDP-S570
£230 Approx



3D Blu-ray spinner is packed with features

Highs: SACD playback; BBC iPlayer onboard

Lows: No multichannel phono outputs means you'll need a v1.4 AVR for 3D lossless audio

→ Specifications

Blu-ray profile: 2.0
DVD upscaling: Up to 1080p
Multichannel phono out: No (stereo only)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: Yes/No
Networkability: Ethernet; wi-fi; USB, iPlayer, LOVEFILM

Tested: Issue 185
For more info visit:
www.sony.co.uk



LG
Blu-ray → BD570
£200 Approx



LG's new deck is an ideal media player-come-BD deck

Highs: Media streaming and networking; disc loading speed; integrated wi-fi

Lows: No internal memory for BD-Live; UI has inconsistencies

→ Specifications

Blu-ray profile: 2.0
DVD upscaling: Up to 1080p
Multichannel phono out: No (stereo only)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: No/No
Networkability: Ethernet; wi-fi; USB

Tested: Issue 186
For more info visit:
www.lge.com/uk



PANASONIC
Blu-ray → DMP-BDT300
£400 Approx



3D BD deck to work in tandem with the brand's 3D plasmas

Highs: Solid AV performance; 3D material is sharp, smooth and involving; twin HDMI outputs

Lows: wi-fi is by dongle only

→ Specifications

Blu-ray profile: 2.0
DVD upscaling: Up to 1080p
Multichannel phono out: Yes (7.1)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: No/No
Networkability: Ethernet; optional wi-fi dongle; USB; SD slot

Tested: Issue 183
For more info visit:
www.panasonic.co.uk

Editor's Choice...

SONY
Blu-ray → BDP-S370 → £150 Approx



The first of Sony's 2010 Blu-ray players to come through the HCC Tech Labs has left us dying to see the higher-end models. This entry-level £150 machine is an absolute AV bargain, blowing its sub-£200 rivals out of the water thanks to its superb XMB control interface, BBC iPlayer and LOVEFILM online access, Super Audio CD playback and, of course, quality HD video and audio performance. More proof that the Big S's Blu-ray focus is more than just the PS3.

Tested: Issue 184
For more info visit: www.sony.co.uk

→ Specifications

Blu-ray profile: 2.0
DVD upscaling: Up to 1080p
Multichannel phono out: No (stereo only)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: No/Yes
Networkability: Ethernet; Wi-Fi; 2 x USB; Bravia Internet Video
BBC iPlayer, LOVEFILM, YouTube, etc

Also recommended



OPPO
Blu-ray → BDP-83SE
Nu-Force Edition
£1,300 Approx



Buffed-up Oppo BDP-83 is perfect for audiophiles

Highs: Excellent HD image quality; terrific build and sonics

Lows: Lacklustre online content portal

→ Specifications

Blu-ray profile: 2.0
DVD upscaling: Up to 1080p
Multichannel phono out: Yes (7.1)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: Yes/Yes
Networkability: Ethernet; online portal; USB

Tested: Issue 190
For more info visit:
www.hiaudio.co.uk



PANASONIC
Blu-ray → DMP-BD85
£300 Approx



New top-of-the-line deck – until the 3D player arrives...

Highs: Overall picture and sound performance; 'Tube' sound emulator for CDs

Lows: Somewhat sluggish menus; wi-fi via dongle only

→ Specifications

Blu-ray profile: 2.0
DVD upscaling: Up to 1080p
Multichannel phono out: Yes (7.1)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: No/No
Networkability: Ethernet; wi-fi via dongle; SD card slot; 2 x USB

Tested: Issue 180
For more info visit:
www.panasonic.co.uk



CAMBRIDGE AUDIO
Blu-ray → Azur 650BD
£400 Approx



First deck from UK brand is a solid performer – and multiregion DVD, too

Highs: Bulletproof build; excellent AV performance

Lows: No 'net features

→ Specifications

Blu-ray profile: 2.0
DVD upscaling: Up to 1080p
Multichannel phono out: Yes (7.1)
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes
DVD-A/SACD playback: Yes/Yes
Networkability: Ethernet for BD-Live; 2 x USB

Tested: Issue 184
For more info visit:
www.cambridgeaudio.com

Recorders

Best on test...



PHILIPS
Freeview HD PVR →
HDT 8520
£250 Approx

1 2 3 4 5

Sets a high standard for user-friendliness

Highs: Good quality HD and SD pics; cutting-edge looks
Lows: No multimedia functions; EPG can be frustrating

→ Specifications

HDD size: 500GB
Twin tuners: Yes, Freeview HD
HDMI: Yes, with 1080p upscaling
Component output: No

Tested: Issue 185
For more info visit:
www.philips.co.uk



HUMAX
Freeview HD PVR →
HDR-FOX T2
£330 Approx

1 2 3 4 5

The pick of the new Freeview HD PVRs so far

Highs: Joy to use; multimedia talent; great performance
Lows: Cramped remote control; can't trim recordings

→ Specifications

HDD size: 500GB
Twin tuners: Yes, Freeview HD
HDMI: Yes, with 1080p upscaling
Component output: No

Tested: Issue 187
For more info visit:
www.humaxdigital.com/uk



TECHNISAT
Freeview HD PVR → HDFV
£150 Approx

1 2 3 4 5

Affordable Freeview HD PVR with external USB recording

Highs: Quality HD and upscaled SD performance; friendly user interface
Lows: USB files can't be played back elsewhere; single tuner

→ Specifications

HDD size: N/A – records to USB
Twin tuners: No, single Freeview HD tuner
HDMI: Yes, with 1080p upscaling
Component output: No

Tested: Issue 188
For more info visit:
www.technisat.co.uk



DIGITALSTREAM
Freeview HD PVR →
DHR8203U
£300 Approx

1 2 3 4 5

Versatile Freeview HD PVR from little-known Korean brand

Highs: Build quality; user interface; CI slot; plays JPEGs and MPEGs
Lows: Below-par SD pics

→ Specifications

HDD size: 500GB
Twin tuners: Yes, Freeview HD
HDMI: Yes, with 1080p upscaling
Component output: No

Tested: Issue 185
For more info visit:
www.dstreamtech.com



GRUNDIG
Freesat PVR →
GUFSDTR500HD
£280 Approx

1 2 3 4 5

Dual-tuner Freesat+ PVR with capacious 500GB HDD

Highs: Easy to use; cool-running; efficient upscaling of non-HD channels
Lows: USB port is disabled

→ Specifications

HDD size: 500GB
Twin tuners: Yes, Freesat HD
HDMI: Yes
Component output: No

Tested: Issue 182
For more info visit:
www.grundig.co.uk

Also recommended



TVONICS
PVR → DTR-HD500
£250 Approx

1 2 3 4 5

Stylish 500GB twin tuner Freeview+ HD PVR

Highs: Commendable picture quality; neat design; twin HDMI inputs
Lows: USB ports are for JPEG display and service updates only

→ Specifications

HDD size: 500GB
Twin tuners: Yes, Freeview HD
HDMI: Yes, 2-in, 1-out with 1080p upscaling
Component output: No

Tested: Issue 191
For more info visit:
www.tvonics.com



PANASONIC
DVDR → DMR-EX773
£300 Approx

1 2 3 4 5

DVD/HDD recorder that misses out on Freeview HD

Highs: Solid AV performance; heaps of features and recording flexibility
Lows: No infra-red control over STB; single Freeview tuner only

→ Specifications

HDD size: 160GB
Twin tuners: No, single digital only
HDMI: Yes
Component output: Yes
Camcorder input: No – USB/SD via USB instead
Format: -R/RW, +R/RW, -RAM
Dual-layer recording: Yes

Tested: Issue 182
For more info visit:
www.panasonic.co.uk



SAGEMCOM
Freeview HD PVR →
RT190-320 T2 HD
£250 Approx

1 2 3 4 5

First Freeview HD PVR from the Sagem rebrand

Highs: Good quality HD and SD pics; picture window in EPG
Lows: Antediluvian UI; sluggish menu system; ugly LED display

→ Specifications

HDD size: 320GB
Twin tuners: Yes, Freeview HD
HDMI: Yes, with 1080p upscaling
Component output: No

Tested: Issue 185
For more info visit:
www.sagemcomdigital.co.uk

Editor's Choice...

PANASONIC
DVD/BDR → DMR-BW880 → £800 Approx

1 2 3 4 5



Panasonic has followed last year's award-winning twin Freesat HD/Blu-ray recorder with this Freeview HD model. Again sporting a 500GB HDD, Profile 2.0 Blu-ray player/recorder and Viera Cast online interactivity, this deck solidifies Panasonic's status as the kings of convergence. Blu-ray playback is first-rate, and as a PVR the BW880 is unique in its flexibility. Other goodies, including Gracenote compatibility, DLNA certification, DV, SD and USB inputs add to its appeal. Not cheap, but true quality often isn't.

Tested: Issue 186
For more info visit: www.panasonic.co.uk

→ Specifications

Hard disk: 500GB
Twin Tuners: Yes 2 x Freeview HD
Component output: No
Format: BD-RE, BD-R, DVD-R/RW, +R/RW, -RAM
Dual-layer recording: Yes

AV receivers

Best on test...



ONKYO
AVR → TX-SR608
£450 Approx

1 2 3 4 5

The 3D-capable AVR delivers great value for money

Highs: Appealing price tag; big, fast, dynamic sound; solid video scaling

Lows: No networking or USB functionality; uninspiring build

→ Specifications

Power: 7 x 160W (6Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: Yes
Serial port control: No
THX certification: Select2 Plus
Component input: 2
HDMI: 6-in, 1-out (v1.4a)
Multichannel input: No

Tested: Issue 184
For more info visit:
www.eu.onkyo.com



MARANTZ
AVR → SR7005
£1,400 Approx

1 2 3 4 5

Marantz finally shakes off its 2-channel bias with this stonking multichannel marvel

Highs: Effortlessly achieves superb detail; great value

Lows: Lacks 9-ch output; not THX rated; tricky to set LFE

→ Specifications

Power: 7 x 125W (8Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM/net)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: Yes
Serial port control: Yes
THX certification: No
Component input: 4
HDMI: 6-in, 2-out (v1.4a)
Multichannel input: Yes (7.1)

Tested: Issue 187
For more info visit:
www.marantz.co.uk



ONKYO
AVR → TX-NR5008
£2,400 Approx

1 2 3 4 5

New flagship receiver exhibits a smoother, mellower sound

Highs: Extensive codec support; ample connectivity, power on tap; network audio

Lows: Navigation could be more intuitive

→ Specifications

Power: 9 x 140W (6Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM/net)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: Yes, and 3
Serial port control: Yes
THX certification: Ultra 2 Plus
Component input: 3
HDMI: 8-in, 2-out (v1.4a)
Multichannel input: Yes (7.1)

Tested: Issue 191
For more info visit:
www.eu.onkyo.com



ONKYO
Amp/Processor
PR-SC5500/PA-MC5500
£3,600 Approx

1 2 3 4 5

Onkyo's separates system delivers on all AV fronts

Highs: Massive power reserves; smooth AV performance

Lows: Sizeable and weighty

→ Specifications

Power: 9 x 220W (6Ω)
Upscaling via HDMI: Yes
Tuner: Yes (FM/AM/net)
Dolby TrueHD/DTS-HD: Yes
Zone 2: Yes, and 3
Serial port control: Yes
THX certification: Ultra2 Plus
Component input: 3
HDMI: 8-in, 2-out (v1.3)
Multichannel input: Yes (7.1)

Tested: Issue 182
For more info visit:
www.eu.onkyo.com



PIONEER
AVR → SC-LX83
£2,000 Approx

1 2 3 4 5

Pioneer's top-flight AVR mixes power, control and usability

Highs: Punchy, detailed, expansive sound; iControl app is superb; MCACC setup; RF remote handset

Lows: Seven-channel only

→ Specifications

Power: 7 x 190W (8Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: Yes, and 3
Serial port control: Yes
THX certification: Yes, Ultra2 Plus
Component input: 3
HDMI: 6-in, 2-out
Multichannel input: Yes (7.1)

Tested: Issue 186
For more info visit:
www.pioneer.co.uk

Editor's Choice...

DENON
AVR → AVR-4810
£2,800 Approx

1 2 3 4 5

Denon's AVR-4810 is the current king of the new breed of receivers that make all sorts of speaker configurations possible. Thanks to Audyssey DSX and Dolby Pro-Logic IIz processing, it's capable of driving an 11.3-channel system (with the aid of an extra stereo amp), and it'll have you re-arranging your speakers in no time. Beyond this mastery of new formats, the AVR-4810 delivers a rich, powerful sound and a full suite of features from Net radio and integrated wi-fi to a wide choice of inputs and four-zone multiroom. Brilliant.

Tested: Issue 179
For more info visit: www.denon.co.uk

→ Specifications

Power: 9 x 140W (8Ω)
Upscaling to HDMI: Yes
Tuner: AM/FM/Net
Dolby TrueHD/DTS-HD: Yes/Yes
Zone 2: Yes and 3 & 4
Serial port control: Yes, 2
THX certification: No
Component input: 3
HDMI: 6-in, 2-out (v1.3)
Multichannel input: Yes (7.1)



Also recommended...



SONY
AVR → STR-DH810
£300 Approx

1 2 3 4 5

Feature-packed HDMI v1.4 AVR at a bargain price

Highs: Value for money; Dolby Pro-Logic IIz; immersive and realistic soundstage

Lows: Not great at high volumes; limited in power

→ Specifications

Power: 7 x 100W (8Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: No, unless you use S-Air wireless speakers
Serial port control: No
THX certification: No
Component input: 3
HDMI: 4-in, 1-out (v1.4)
Multichannel input: No

Tested: Issue 186
For more info visit:
www.sony.co.uk



DENON
AVR → AVR-2311
£800 Approx

1 2 3 4 5

Mid-range Denon sounds good but is feature-lite

Highs: Articulate, fast-paced sound; digital iPod/iPad connection

Lows: Lack of networking is odd; no multichannel inputs

→ Specifications

Power: 7 x 135W (8Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM)
Dolby TrueHD
DTS-HD: Yes
Zone 2: Yes
Serial port control: Yes
THX certification: No
Component input: 2
HDMI: 6-in, 1-out (v1.4)
Multichannel input: No

Tested: Issue 190
For more info visit:
www.denon.co.uk



PIONEER
AVR → VSX-520
£300 Approx

1 2 3 4 5

Affordable but stylish 3D-capable AVR

Highs: Classy design; decent sound quality; good feature count

Lows: Springclip speaker terminals; no OSD

→ Specifications

Power: 5 x 130W (8Ω)
Upscaling via HDMI: Yes
Tuner: Yes (AM/FM)
Dolby TrueHD: Yes
DTS-HD: Yes
Zone 2: No
Serial port control: No
THX certification: No
Component input: 2
HDMI: 3-in, 1-out (v1.4)
Multichannel input: No

Tested: Issue 191
For more info visit:
www.pioneer.co.uk

Projectors

Best on test...



INFOCUS
DLP → ScreenPlay SP8602
£3,000 Approx



New-look DLP projector from a much-revered brand

Highs: Excellent picture quality; good range of adjustments; different 'skins'
Lows: Not as flexible to set up as some; slightly noisy runner

→ Specifications

1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 3
D-Sub: Yes
Brightness (claimed): 1,300 ANSI lumens
Contrast (claimed): 5,000:1
Lamp life (claimed): 2,500hrs
Fan noise: NA
24fps: Yes

Tested: Issue 182
For more info visit:
www.infocus.com



SIM2
DLP → MICO 40
£11,00 Approx



SIM2's 'affordable' LED projector claims a 30,000-hour lamp life

Highs: Richly coloured, sharp pictures; nicely designed chassis; enormous setup flexibility
Lows: Bland remote and OS

→ Specifications

1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 700 ANSI lumens
Contrast (claimed): 50,000:1
Lamp life (claimed): 30,000hrs
Fan noise: 25dB
24fps: Yes

Tested: Issue 189
For more info visit:
www.sim2.co.uk



RUNCO
DLP → LS-5
£7,500 Approx



High-end CI projection for the mass market

Highs: Excellent contrast and colour response; superbly sharp images; minimal rainbow effect
Lows: Noisy runner

→ Specifications

1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 2
D-Sub: Yes
Brightness (claimed): 800 ANSI lumens
Contrast (claimed): 15,000:1
Lamp life (claimed): 2,000 to 4,000hrs
Fan noise: 30dB
24fps: Yes

Tested: Issue 187
For more info visit:
www.pulsemarketing.org



JVC
D-ILA → HD750
£6,000 Approx



An awe-inspiring 2D video-chucker from the D-ILA king

Highs: Easy setup; THX colour preset; startling HD images; very quiet in operation
Lows: Doesn't support 3D playback

→ Specifications

1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 900 ANSI lumens
Contrast (claimed): 50,000:1
Lamp life (claimed): 3,000hrs
Fan noise: 19dB
24fps: Yes

Tested: Issue 179
For more info visit:
www.jvc.co.uk



SONY
SXRD → VPL-HW20
£2,400 Approx



New mid-range model from Sony delivers the goods

Highs: Design; excellent picture quality; good value
Lows: Adjustment tools aren't standard; no 12V trigger

→ Specifications

1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 1,300 ANSI lumens
Contrast (claimed): 80,000:1
Lamp life (claimed): 6,000hrs
Fan noise: 20dB
24fps: Yes

Tested: Issue 190
For more info visit:
www.sony.co.uk

Also recommended...



EPSON
LCD → EH-TW5500
£4,000 Approx



Epson's flagship home cinema projector does LCD proud

Highs: Lots of features; easy and flexible to setup; produces the finest LCD pictures yet
Lows: More expensive than rivals; can lose focus a little

→ Specifications

1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 1,600 ANSI lumens
Contrast (claimed): 200,000:1
Lamp life (claimed): 4,000hrs
Fan noise: 22dB
24fps: Yes

Tested: Issue 181
For more info visit:
www.epson.co.uk



VIVITEK
DLP → H1085
£1,000 Approx



A brilliant full HD projector at a mouth-watering price

Highs: Rich colours; excellent image tweaks; 12V trigger
Lows: Noisy runner in high brightness mode; some low-level noise in darker scenes

→ Specifications

1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 2,000 ANSI lumens
Contrast (claimed): 5,000:1
Lamp life (claimed): 4,000hrs
Fan noise: 26dB
24fps: Yes

Tested: Issue 179
For more info visit:
www.vivitekcorp.com



PANASONIC
LCD → PT-AE4000
£2,500 Approx



Updated flagship PJ adds red-rich lamp and 12V trigger

Highs: Smooth filmic pictures; easy to setup and use; handy feature set
Lows: Boxy design; be careful with high frame-rate settings

→ Specifications

1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 1,600 ANSI lumens
Contrast (claimed): 100,000:1
Lamp life (claimed): 2,000 hours
Fan noise: 22dB
24fps: Yes

Tested: Issue 177
For more info visit:
www.panasonic.co.uk

Editor's Choice...

SONY
SXRD → VPL-VW90ES
£5,400 Approx



Sony's new range-topping projector marries an exemplary 2D picture performance with one of the best Active Shutter 3D systems we've seen – extensive user features allow you to pretty much eliminate crosstalk niggles with three-dimensional images. Aside from its video prowess, it also features a smart design and solid build quality, inoffensive running noise and versatile installation options, including zoom focus and electronic lens shift. The best 3D projector we've seen so far – JVC and chums will have to do well to beat it.

Tested: Issue 192
For more info visit: www.sony.co.uk/biz

→ Specifications

1920 x 1080 resolution
HDMI inputs: 2
Component inputs: 1
D-Sub: Yes
Brightness (claimed): 1,000 ANSI lumens
Contrast (claimed): 150,000:1
Lamp life (claimed): NA
Fan noise: 22dB
24fps: Yes

Speaker systems

Best on test...



MONITOR AUDIO
5.1 → Platinum PL200AV
£11,500 Approx

1 2 3 4 5

Gorgeous-looking, hi-tech 5.1 system for serious cinema

Highs: Dynamic, engaging sound with pin-sharp detail; taut, powerful bass; excellent build

Lows: Base plinths seem to belong to another design

→ Specifications

Power handling: 2 x 250W, 2 x 120W, 1 x 100W
Rears: Direct radiating
Subwoofer: 1 x 1,000W
Finish: Gloss; Bookshelf: No

Tested: Issue 184

For more info visit:
www.monitoraudio.com



CRYSTAL ACOUSTICS
5.1 → TX-T2-12
£1,300 Approx

1 2 3 4 5

Great value THX Ultra2-certified array with a classy finish

Highs: Impressive full-range scale and power from relatively small speakers

Lows: Brash and unsubtle; not so good at low volumes

→ Specifications

Power handling: 2 x 150W, 3 x 100W
Rears: Dipoles
Subwoofer: 200W
Finish: Gloss; Bookshelf: No

Tested: Issue 185

For more info visit:
www.crystallaudiovideo.com



ACOUSTIC ENERGY
5.1 → Aegis Neo V2
£1,200 Approx

1 2 3 4 5

Traditional-looking 5.1 system does the job

Highs: Classy build; sophisticated sound with clean bass tones

Lows: At high volumes there's some slight distortion from the floorstanders

→ Specifications

Power handling: 2 x 170W, 3 x 120W
Rears: Direct radiating
Subwoofer: 200W
Finish: Wood; Bookshelf: No

Tested: Issue 191

For more info visit:
www.acoustic-energy.co.uk



PSB
5.1 → Imagine Series
£3,000 Approx

1 2 3 4 5

US-made speakers that are well-built and sound great

Highs: Disproportionate bass from tiny sub; fast, impactful highs; dynamic sound; high-quality finish

Lows: Subwoofer finish doesn't match the rest of the system

→ Specifications

Power handling: 2 x 200W, 3 x 150W
Rears: Direct radiating
Subwoofer: 500W
Finish: Wood; Bookshelf: No

Tested: Issue 188

For more info visit:
www.armorhome.co.uk



KEF
5.1 → T-Series T205
£1,500 Approx

1 2 3 4 5

Slim and sultry 5.1 system looks gorgeous and offers sweet surround sonics

Highs: Tight, fast subwoofer and potent, clean-sounding satellites; neat design; wall- and stand-mounting options

Lows: Not for stereophiles or large rooms

→ Specifications

Power handling: 2 x 100W, 3 x 150W
Rears: Direct radiating
Subwoofer: 250W
Finish: Gloss; Bookshelf: No

Tested: Issue 192

For more info visit:
www.kef.com

Also recommended...



CANTON
5.1 → Movie CD 151
£800 Approx

1 2 3 4 5

Impressive small-scale system from the German brand

Highs: Compact satellites; crisp and bold sound; punchy subwoofer

Lows: Less cohesive soundstage at the rear; not suitable for large rooms

→ Specifications

Power handling: 5 x 120W,
Rears: Direct radiating
Subwoofer: 120W
Finish: Gloss; Bookshelf: Yes

Tested: Issue 189

For more info visit:
www.canton.de/en



MONITOR AUDIO
5.1 → Apex
£2,400 Approx

1 2 3 4 5

Premium compact 5.1 system offers performance and style

Highs: Intricately detailed, articulate and powerful sound; supermodel looks; build quality

Lows: Expensive by normal compact system standards

→ Specifications

Power handling: 4 x 100, 1 x 200W;
Rears: Direct radiating
Subwoofer: 1 x 500W
Finish: Gloss; Bookshelf: Yes

Tested: Issue 190

For more info visit:
www.monitoraudio.co.uk



Q ACOUSTICS
5.1 → 2000 Series
£550 Approx

1 2 3 4 5

Excellent 5.1 sub/sat system with living-room friendly looks

Highs: Detailed, compact satellites; alternative finishes/supports; tweakable sub

Lows: Slightly rough sound when extended; lack of high-frequency subtlety

→ Specifications

Power handling: 4 x 75W, 1 x 100W; Rears: Direct radiating
Subwoofer: 140W
Finish: Gloss;
Bookshelf: Yes

Tested: Issue 185

For more info visit:
www.qacoustics.co.uk

Editor's Choice...

KEF
5.1 → XQ Series
£5,000 Approx

1 2 3 4 5

This KEF 5.1 array mixes standmount surrounds with two hulking floorstanders to deliver a massive cinematic audio experience that's hard to fault – an ideal blend of deep bass, spacious mid-band and crystal clear treble. The design is gorgeous, too – another KEF masterclass in gloss black cabinets (curved to reduce internal reflections) and clearly taking a lead from the brand's awe-inspiring Reference system. Other variants of the speakers are available, so you can spec a more affordable, smaller room setup should you wish.



Tested: Issue 174

For more info visit: www.kef.com/gb

→ Specifications

Power handling: 2 x 200W, 2 x 120W, 1 x 150W
Rears: Direct radiating
Subwoofer: 1 x 200W
Finish: Gloss
Bookshelf: No chance

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*SEE IN-STORE, WRITTEN DETAILS ON REQUEST.

Subwoofers

Best on test...



PARADIGM
SW → Seismic 110
£1,200 Approx

1 2 3 4 5

Powerful, high-performance 10in sub with quirky styling

Highs: Excellent performance from a compact sub; monstrous power
Lows: Not a budget option

→ Specifications

Frequency response: 18Hz-150Hz (claimed)
Amplifier: 850W
Driver: 10in
Weight: 16.8kg
Enclosure: Sealed
On-board equaliser: No
Remote control: No

Tested: Issue 188
For more info visit:
www.paradigm.com



VELODYNE
SW → CHT-15Q
£1,200 Approx

1 2 3 4 5

Potent 15in woofer with excellent EQ system

Highs: Tremendous grip, power, and headroom; supplied remote control
Lows: Pretty dull to look at

→ Specifications

Frequency response: 23Hz-120Hz (claimed)
Amplifier: 750W
Driver: 15in
Weight: 34kg
Enclosure: Ported
On-board equaliser: Yes
Remote control: Yes

Tested: Issue 189
For more info visit:
www.red-line.co.uk



PARADIGM
SW → Signature Sub 2
£7,250 Approx

1 2 3 4 5

Reference grade sub for serious installs only

Highs: Astonishing power, control and speed; build quality is first rate
Lows: Can you afford one?

→ Specifications

Frequency response: 7Hz-150Hz (claimed)
Amplifier: 4,500W
Driver: 6 x 10in
Weight: 105.7kg
Enclosure: Sealed
On-board equaliser: No
Remote control: No

Tested: Issue 183
For more info visit:
www.paradigm.com



BK ELECTRONICS
SW → XXLS400DF
£400 Approx

1 2 3 4 5

Another excellent affordable sub from the Brit-based brand

Highs: Clean, tight output with 'warm' feel from its Class AB amplification;
Lows: Black box design

→ Specifications

Frequency response: 19Hz-120Hz (claimed)
Amplifier: 400W
Driver: 12in
Weight: 29kg
Enclosure: Sealed
On-board equaliser: No
Remote control: No

Tested: Issue 191
For more info visit:
www.bekelec.com



REL
SW → T3
£430 Approx

1 2 3 4 5

Great value-for-money small-scale subwoofer

Highs: Superb performance from such a small unit
Lows: Dual input system may irritate some

→ Specifications

Frequency response: 30-120Hz (claimed)
Amplifier: 150W
Driver: 8in
Weight: 12.5kg
Enclosure: Sealed
On-board equaliser: No
Remote control: No

Tested: Issue 186
For more info visit:
www.rel.net

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Photo: Arteoustic SA and Sphere Custom Design

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